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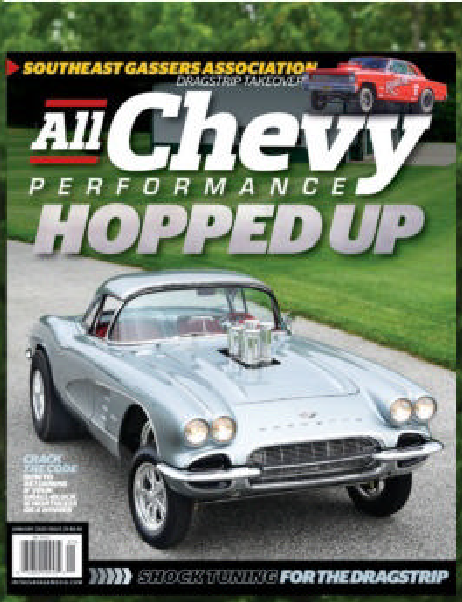

ON THE COVER

Danny Jones' '61 Corvette pays tribute to the '60s gasser era that helped catapult drag racing onto the main stage of auto racing. The car is an immaculate representation of a build style from days gone by that refused to die. Check out the full feature and story starting on page 16. Photos by Chuck Vranas

Duralast
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OF All Chevy
PERFORMANCE

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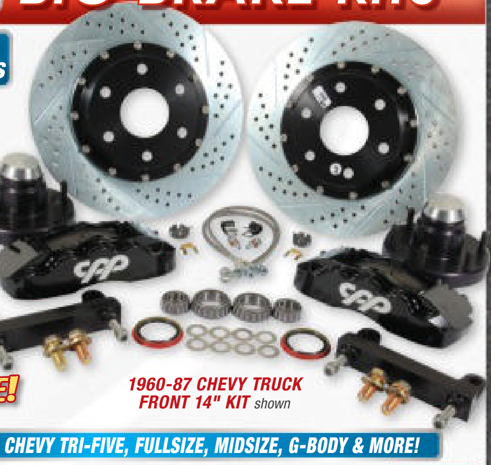

1960-87 CHEVY TRUCK FRONT 14" KIT *shown*

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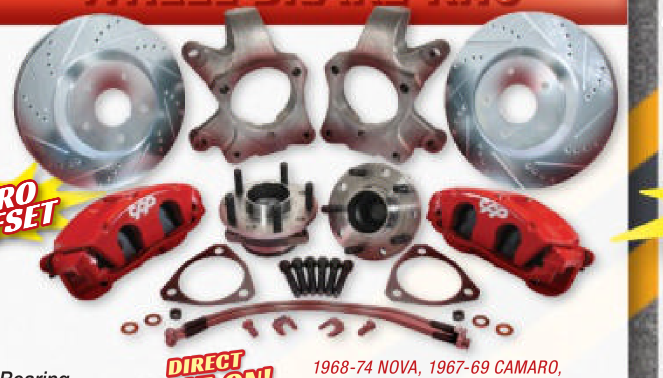

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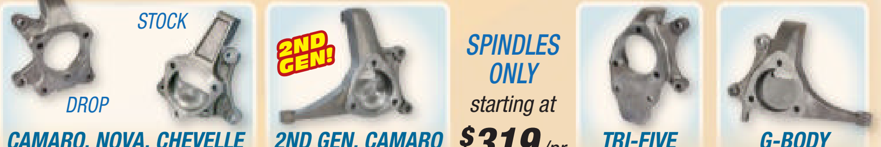

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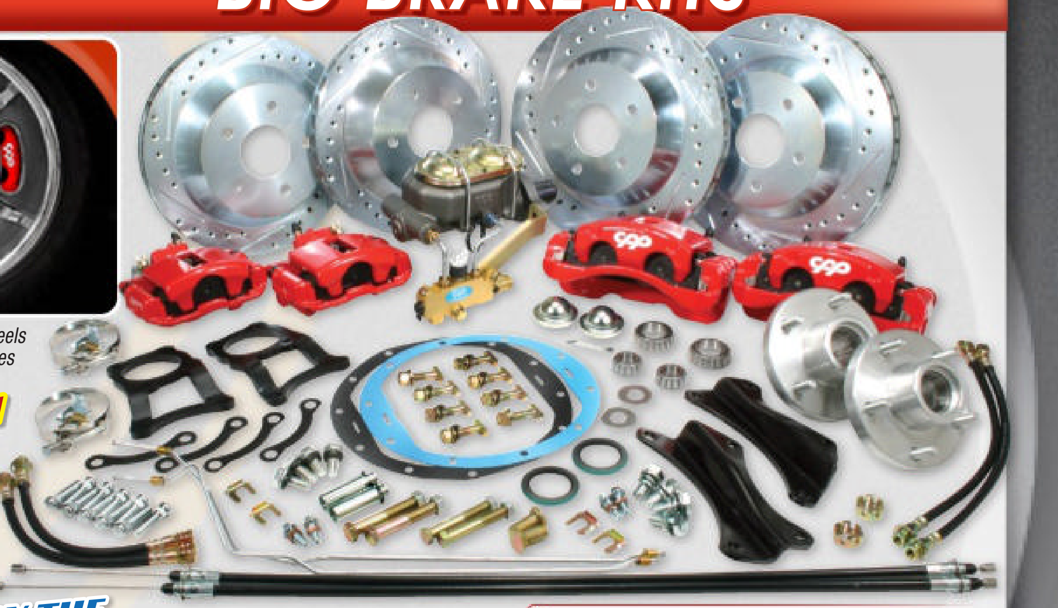

DUAL 52MM PHENOLIC PISTON FRONT CALIPERS

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COMPLETE FRONT & REAR BIG BRAKE KIT starting at $1798/kit

COMPLETE KIT FEATURES FRONT & REAR KIT COMPONENTS

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1961-62 Non-Air Kit Shown

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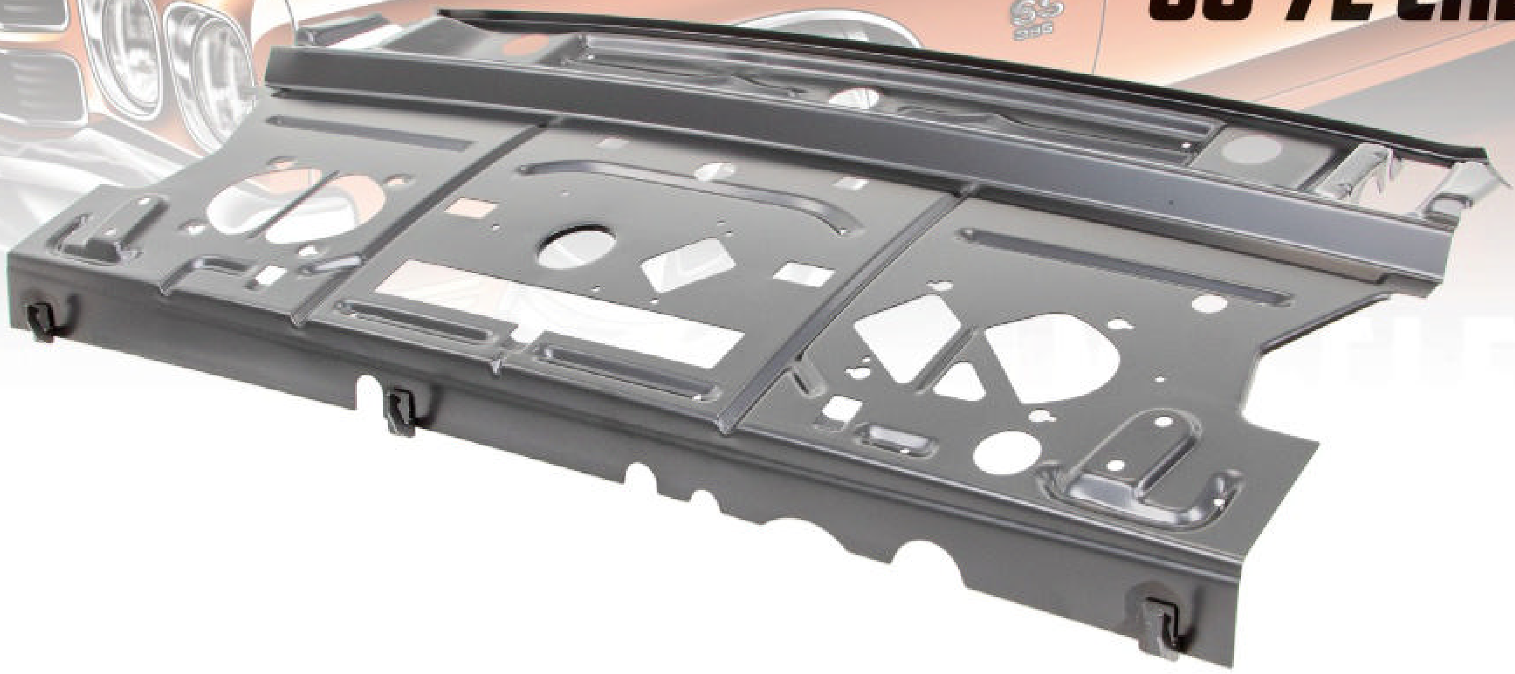

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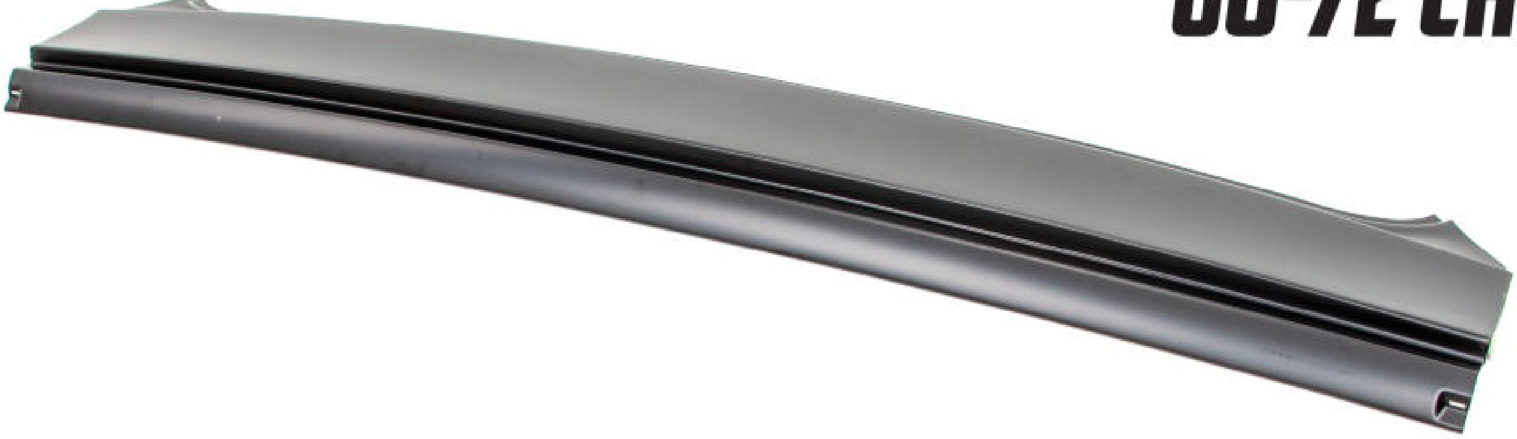

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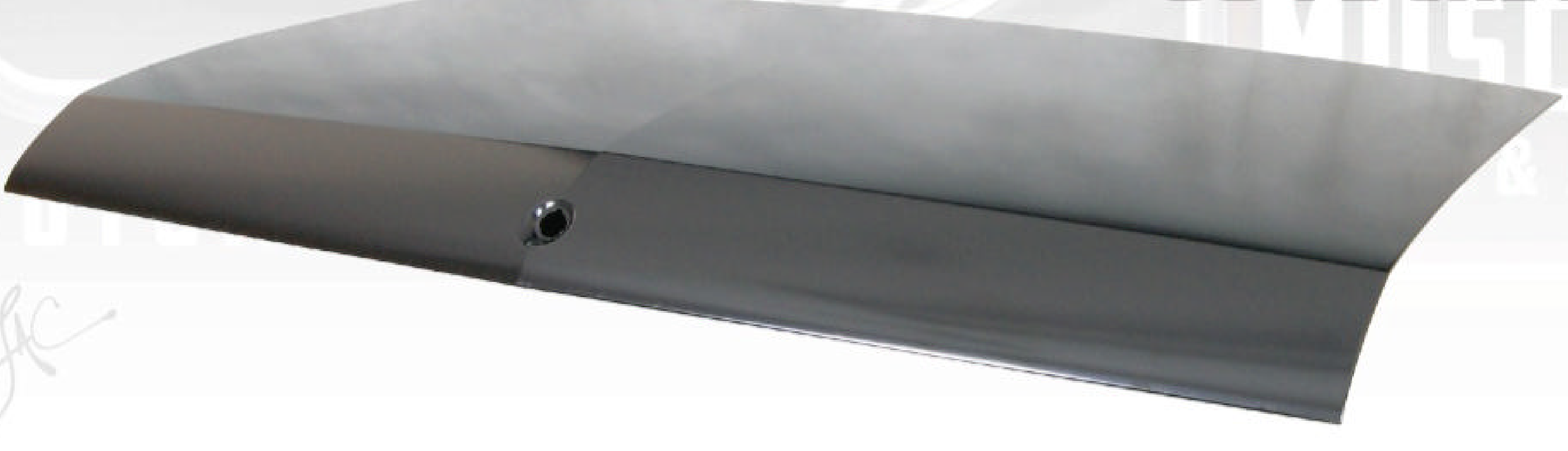

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BY **NICK LICATA**

TWO YEARS IN

It's hard to believe that we here at *All Chevy Performance* magazine are celebrating our two-year anniversary. With *ACP* having a born-on date of January 2021, the magazine you are holding in your hands or reading online is our 25th issue. That's pretty cool being the odds of success weren't on our side, or at least that's what some of the feedback would suggest when we announced the addition of a Chevy-only magazine to the roster of In The Garage Media's *Modern Rodding* and *Classic Truck Performance* magazines.

"Don't you guys know that print magazines are dead?" "No one buys magazines anymore." "Which one of you 'brainiacs' decided to start a new Chevy magazine?" "Why would you publish a new magazine when everything is on the Internet?"

Yep, we heard all the "positive" and "inspiring" comments you can imagine with some that included more "colorful" language. To us, all the noise just confirmed that we made the right decision at the right time.

When people tell me I can't or shouldn't do something, it only makes me want to do it more. Kind of like when my 12-year-old self was told there was no way I'd be able to jump my Schwinn Sting-Ray over a 13-foot ditch using a wooden ramp built by an efficient group of 12-year-old "engineers." Apparently, my speed and launch angle calculations were a little off so I ended up with a broken left arm and a mouthful of dirt. That's one time I probably should have listened to reason.

So, why did we get back into the magazine game? Speaking for myself, after 18 years doing Chevy-related magazines, I don't know how to do much else, so it was an easy decision. Besides, all of us at In The Garage Media had previously worked together at another magazine publishing company, had plenty of experience in the business, and shared the same passion of putting together automotive performance magazines—only this time around the idea was to do them better. Better paper meant the photography would look more dynamic and the pages would stay intact should a reader turn a page a little carelessly. In January 2022 we took it a step further and gave the magazine a larger trim size, which allowed for larger and more impactful photos within the car features, tech articles, and event coverage for an even better reading experience and a magazine I am proud to be a part.

All Chevy
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STREET BEAST
DON'T GET HELD UP! 5 POTENTIAL HORSEPOWER-ROBBERS
SMALL-BLOCK EFI INSTALL
20 USEFUL LS SWAP TIPS
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PREMIERE ISSUE

WE CAME OUT FIRING ON ALL EIGHT CYLINDERS WITH THE JAN. '21 ISSUE.

Does it look familiar? Yep. Does it have a similar name to a magazine you may have read or subscribed to before? Absolutely. And it was all done by design.

We took a chance and created a subscription-only magazine as we knew there was an audience who still wanted a magazine they could hold in their hands, stack on their coffee table, neatly tuck away on a shelf, or store in the garage just like they used to. About a year and a half in, *ACP*, along with *Modern Rodding* and *Classic Truck Performance* caught the attention of national retailers, and today all three magazines are available at Barnes & Noble and Books-A-Million retail stores.

So, as we begin our third year in production, I want to thank all of you subscribers and single-copy buyers for making *All Chevy Performance* the success it is today. You keep buying 'em, we'll keep printing 'em.

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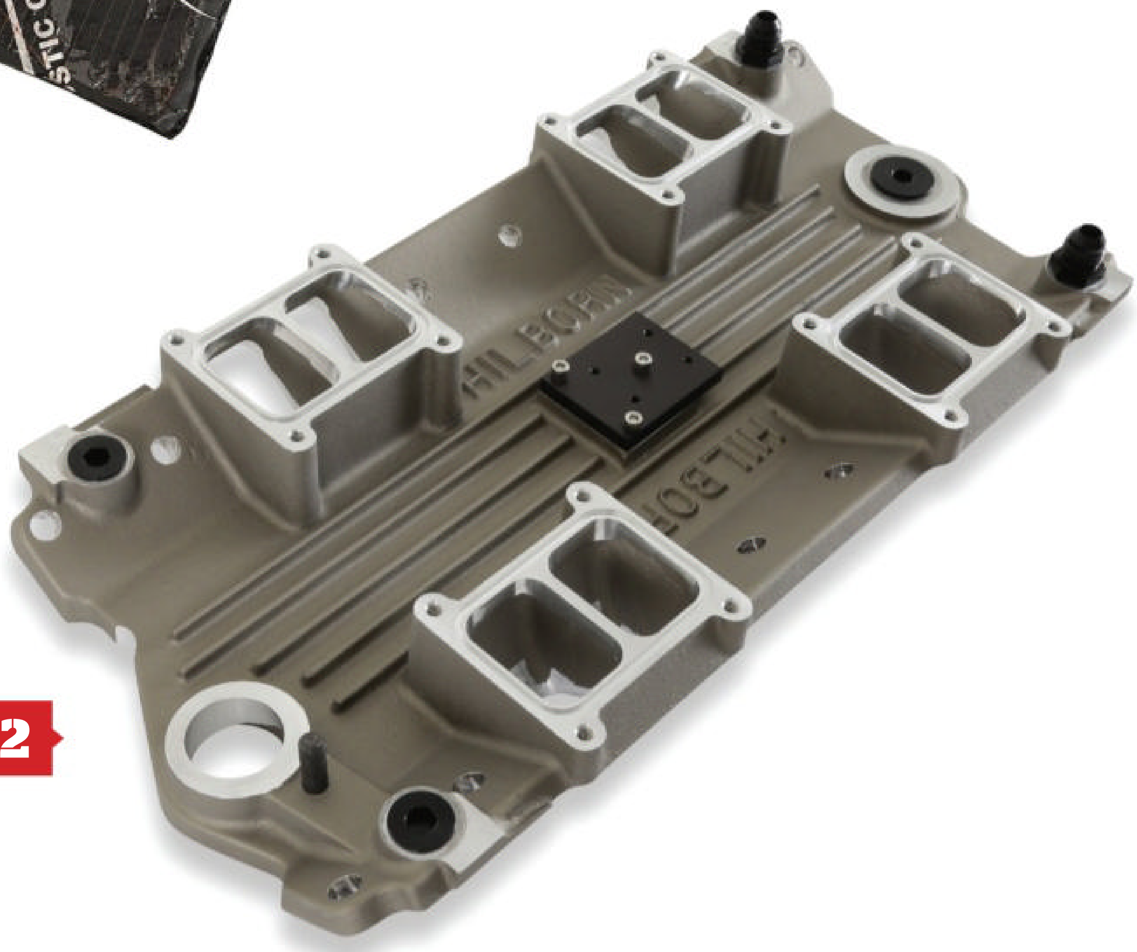

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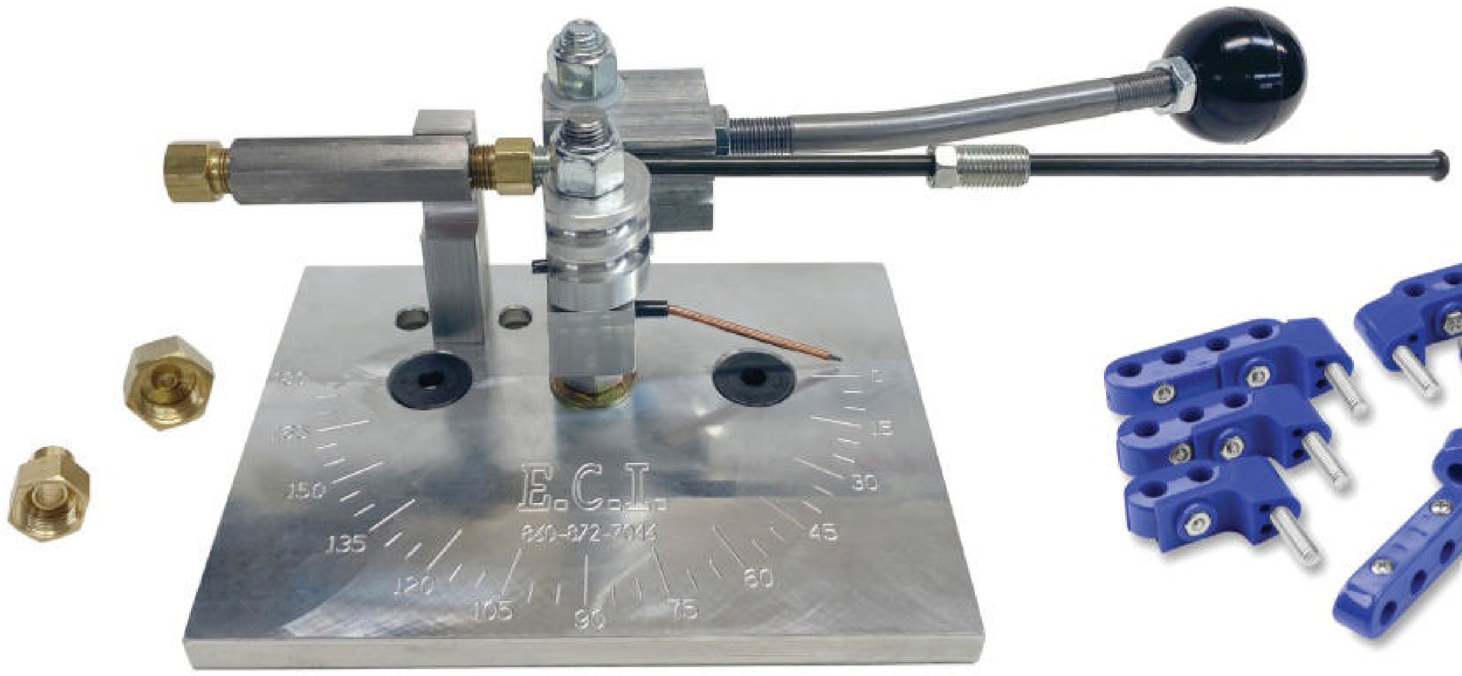

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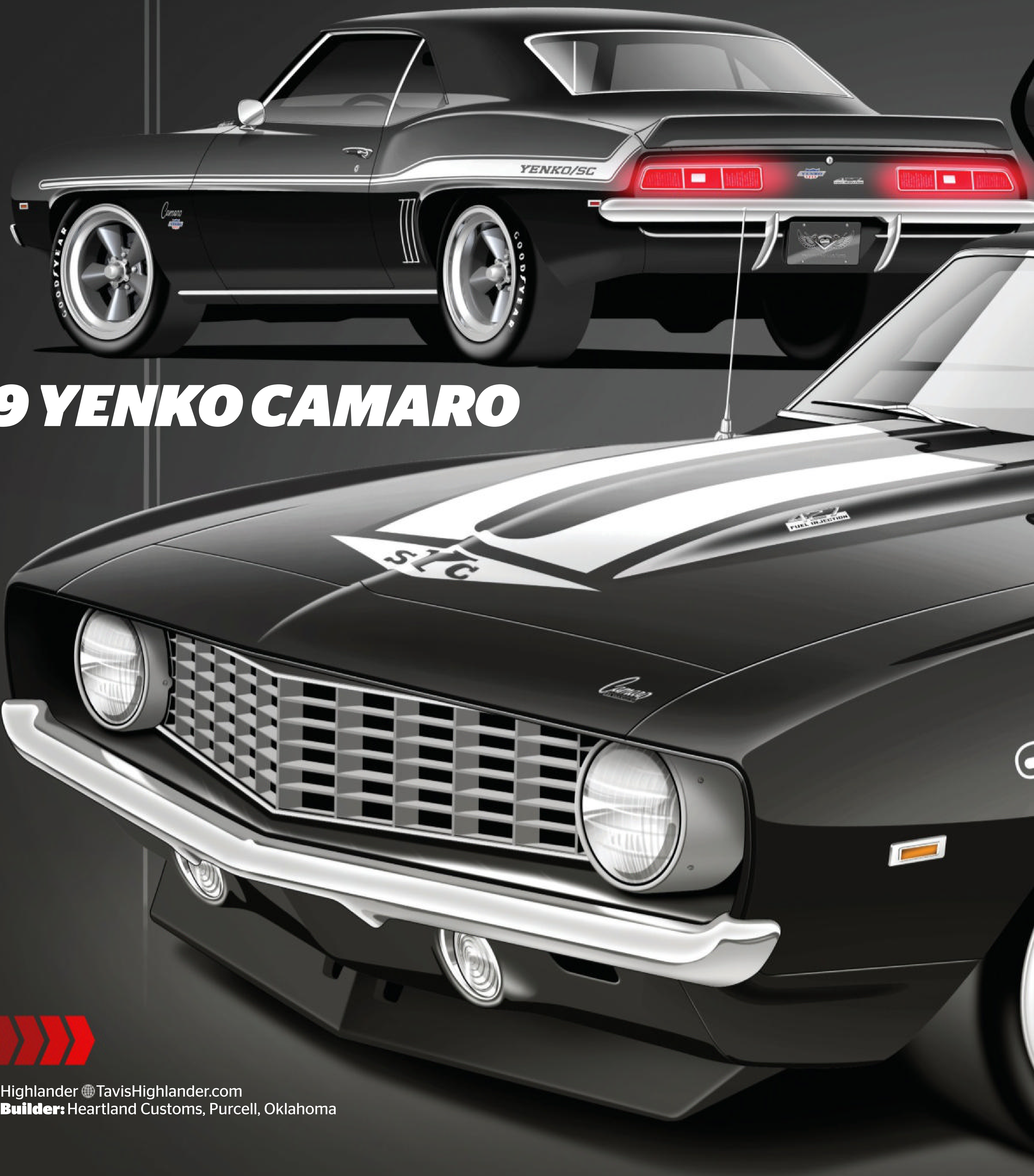
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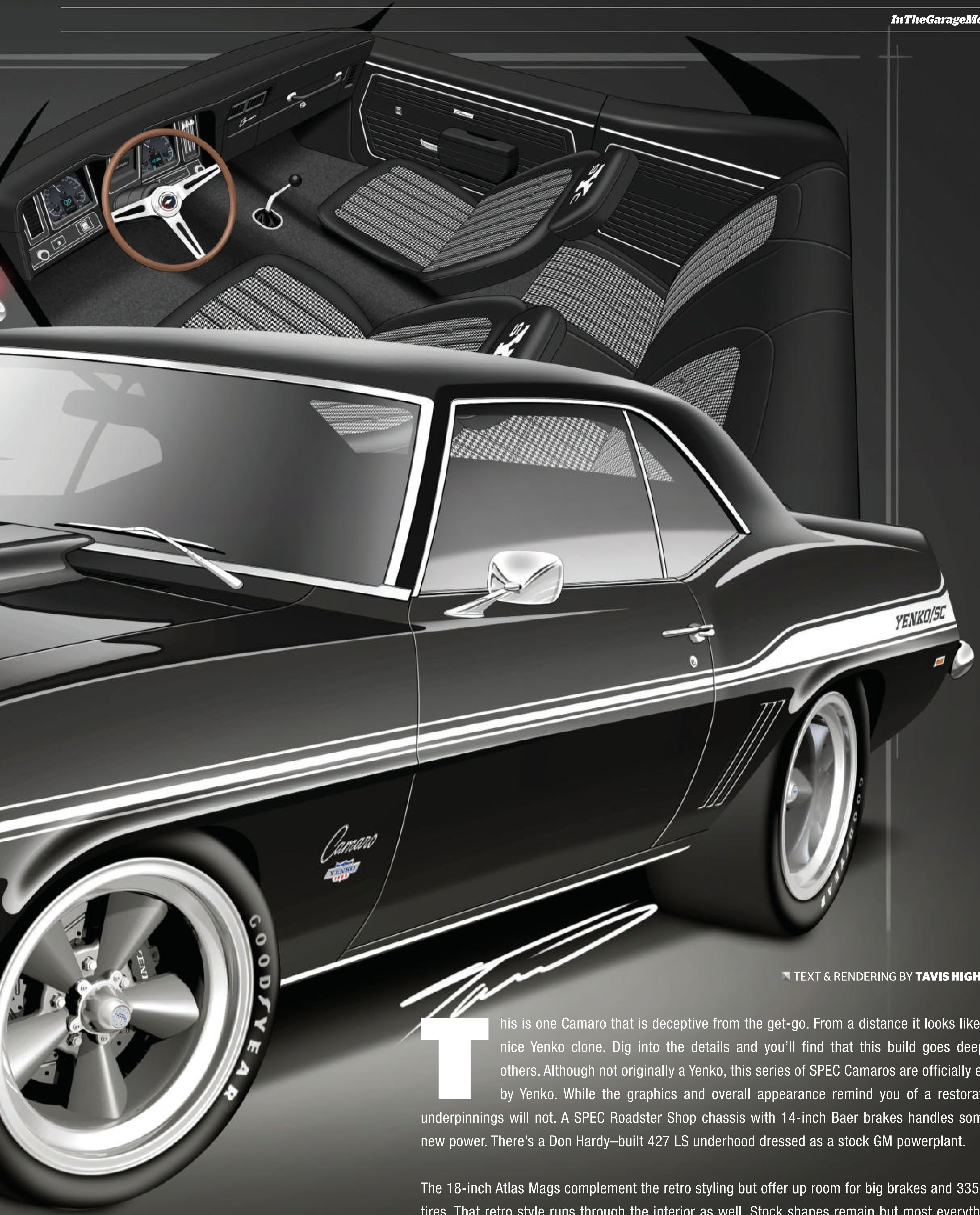
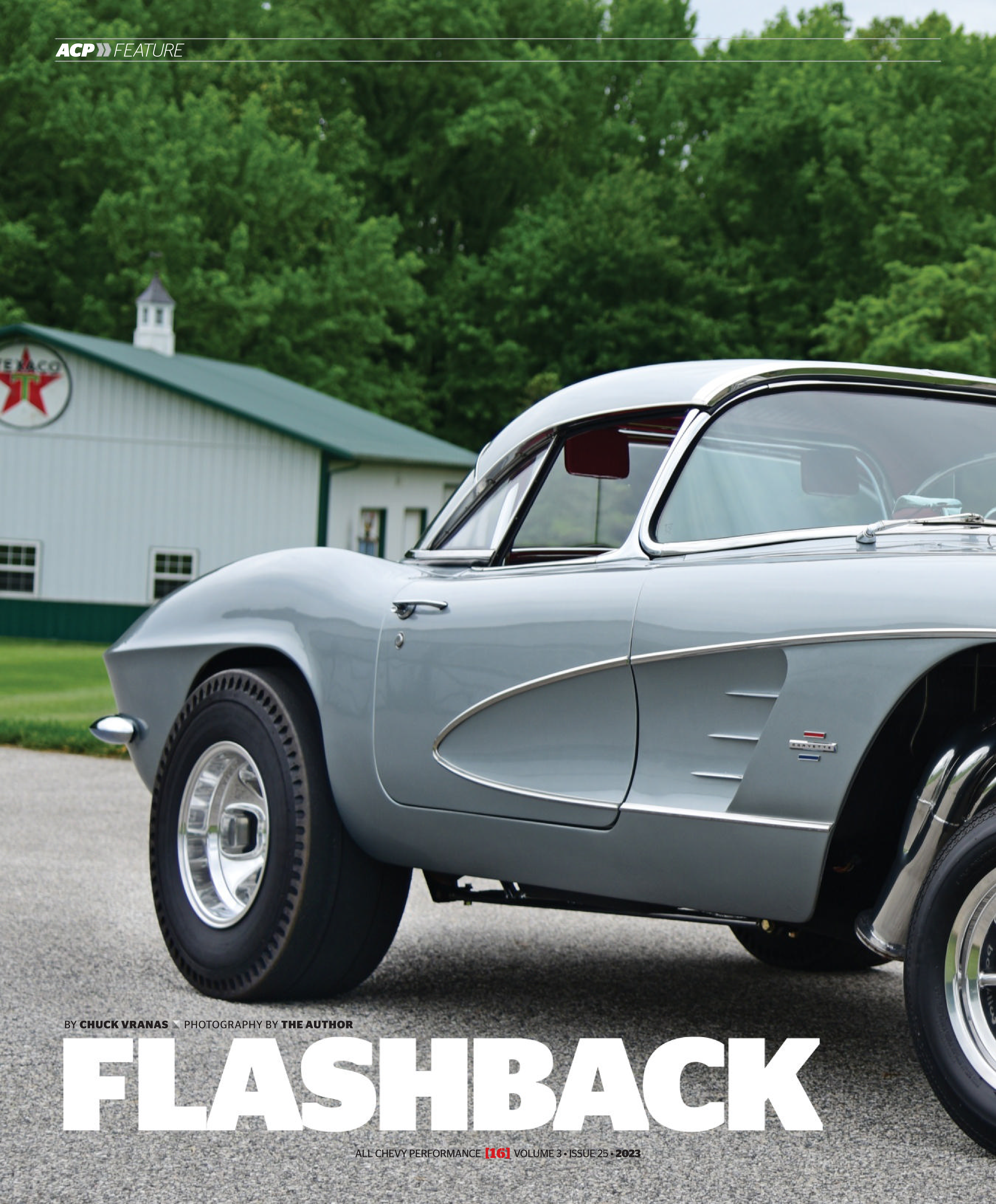


TEXT & RENDERING BY **TAVIS HIGHLANDER**

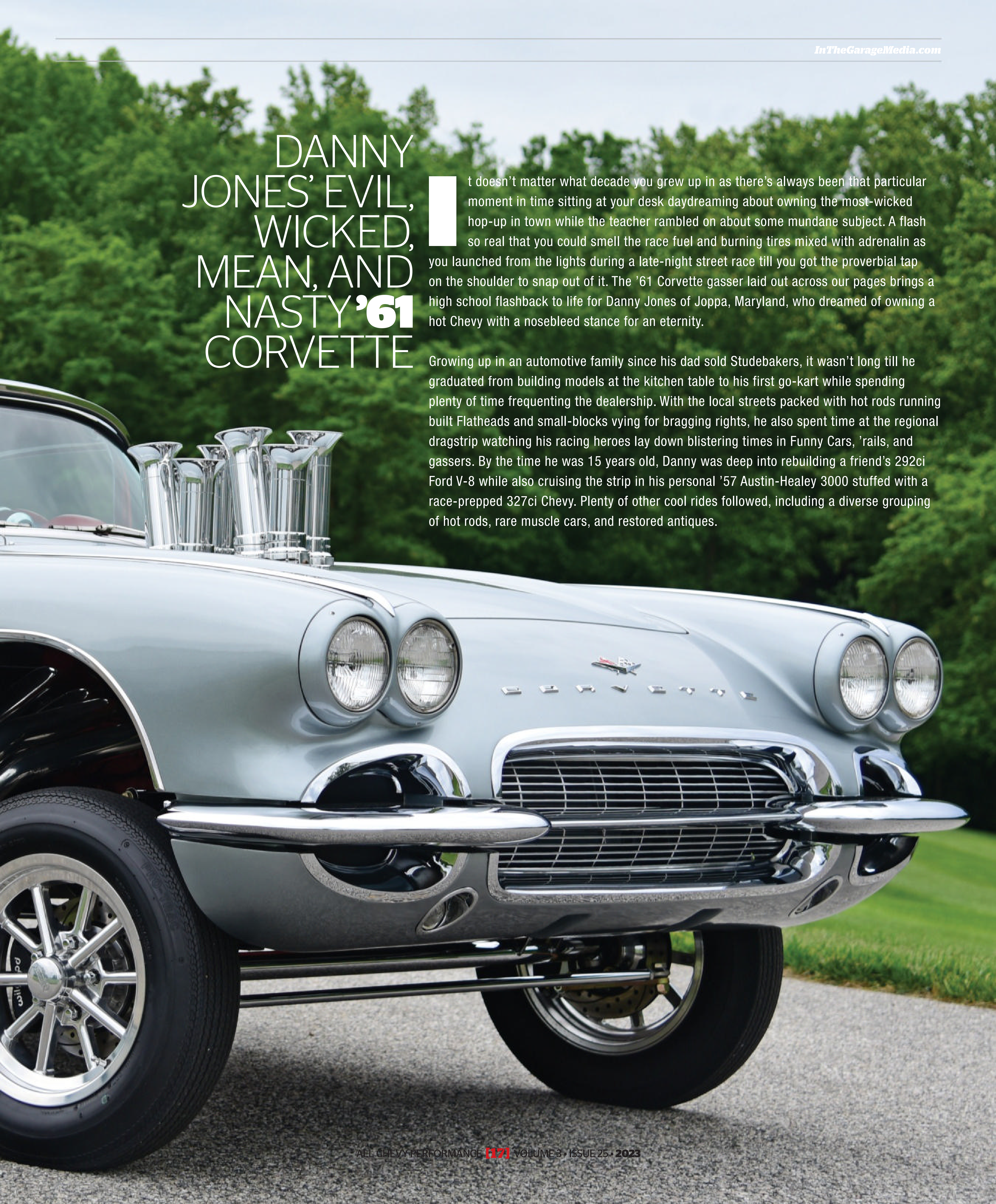
This is one Camaro that is deceptive from the get-go. From a distance it looks like another nice Yenko clone. Dig into the details and you'll find that this build goes deeper than others. Although not originally a Yenko, this series of SPEC Camaros are officially endorsed by Yenko. While the graphics and overall appearance remind you of a restoration, the underpinnings will not. A SPEC Roadster Shop chassis with 14-inch Baer brakes handles some major new power. There's a Don Hardy–built 427 LS underhood dressed as a stock GM powerplant.

The 18-inch Atlas Mags complement the retro styling but offer up room for big brakes and 335mm rear tires. That retro style runs through the interior as well. Stock shapes remain but most everything is fit and finished with new high-end materials.



BY **CHUCK VRANAS** PHOTOGRAPHY BY **THE AUTHOR**

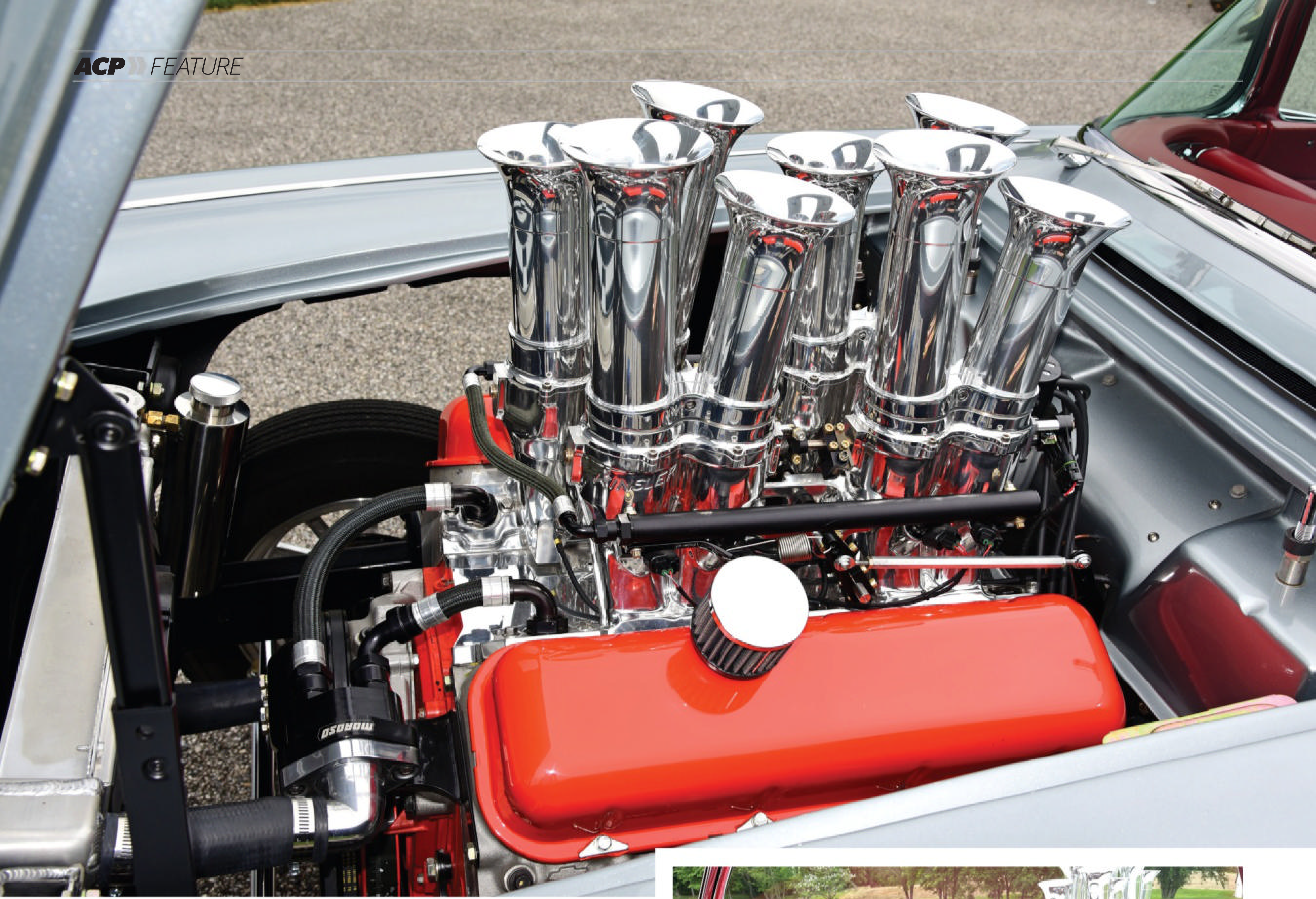
FLASHBACK



DANNY JONES' EVIL, WICKED, MEAN, AND NASTY '61 CORVETTE

It doesn't matter what decade you grew up in as there's always been that particular moment in time sitting at your desk daydreaming about owning the most-wicked hop-up in town while the teacher rambled on about some mundane subject. A flash so real that you could smell the race fuel and burning tires mixed with adrenalin as you launched from the lights during a late-night street race till you got the proverbial tap on the shoulder to snap out of it. The '61 Corvette gasser laid out across our pages brings a high school flashback to life for Danny Jones of Joppa, Maryland, who dreamed of owning a hot Chevy with a nosebleed stance for an eternity.

Growing up in an automotive family since his dad sold Studebakers, it wasn't long till he graduated from building models at the kitchen table to his first go-kart while spending plenty of time frequenting the dealership. With the local streets packed with hot rods running built Flatheads and small-blocks vying for bragging rights, he also spent time at the regional dragstrip watching his racing heroes lay down blistering times in Funny Cars, 'rails, and gassers. By the time he was 15 years old, Danny was deep into rebuilding a friend's 292ci Ford V-8 while also cruising the strip in his personal '57 Austin-Healey 3000 stuffed with a race-prepped 327ci Chevy. Plenty of other cool rides followed, including a diverse grouping of hot rods, rare muscle cars, and restored antiques.



Somehow, though, there was still one particular vision haunting him from his high school days: that of a nasty C1 Corvette gasser laced with attitude and stuffed with an injected big-block mill lurking in the school parking lot surrounded by fellow classmates. It was this dream sequence that acted as a springboard to start a search for a suitable car to bring it all to life. Initially, the intent was to concentrate on sourcing a stalled project or a derelict roller, however this led to a dead end with the current upsurge in the Corvette restoration world. Further exploration led to researching local cars for sale while eventually making his way to local and national automotive auctions. The thought of purchasing a completed car now seemed to be a better value since it would only need a few upgrades to inject a fusion of power and stance to get it ready for the street. Eventually, Danny located a pristine, numbers-matching '61 Corvette that would act as the base for the build.

Having seen the amazing array of traditional gassers emerging from B'z Rods in Beach Park, Illinois, Danny contacted shop owner Brian Bell to discuss the build. The pair shared many of the same ideas on what it would take to create an ultimate Corvette gasser by fusing plenty of period-perfect updates to its restored platform, including many of B'z exclusive elements direct from their many years of research and development in building hot rods and race cars. The C1 was delivered to get the project started but the tale of simplicity in the conversion was about to take a very unexpected turn.

CHEVROLET
CORVETTE

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Sun SUPER Tach
R.P.M.
THOUSANDS

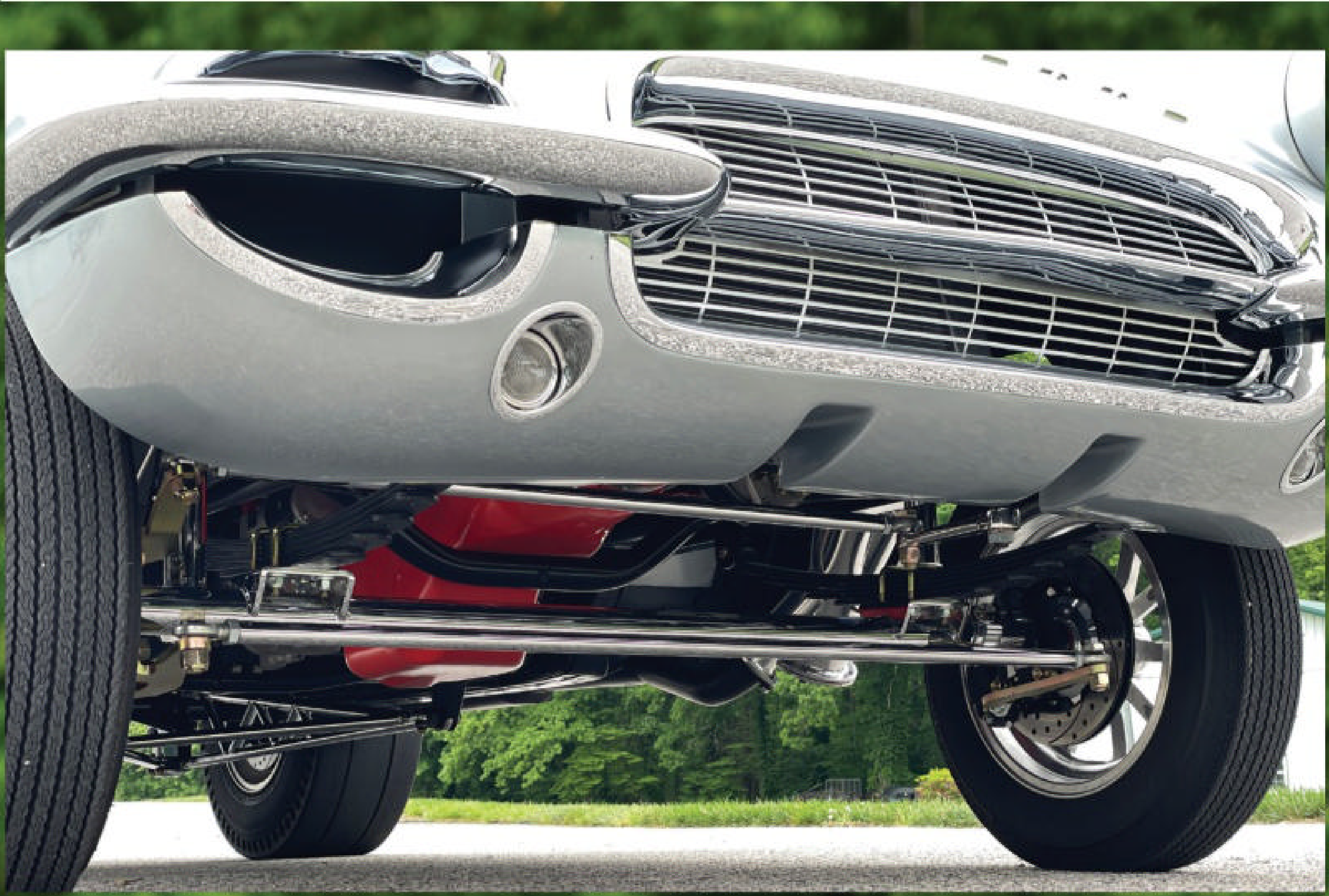
Once the B'z team, including Brian, Pat Norton, Jon Quinn, and Joe Barczak removed the body to get started on the chassis, they noticed older hidden collision repairs to the original frame done with, of all things, diamond plate. It was found to be 4¼ inches out of square. Seeing this, a plan was set to incorporate as much of the original frame into the base as possible. Now settled in the frame jig, forward of the firewall a rectangular tube frame was crafted, which was blended into some of the stock frame with a custom, double-rail X-member tying it all together.

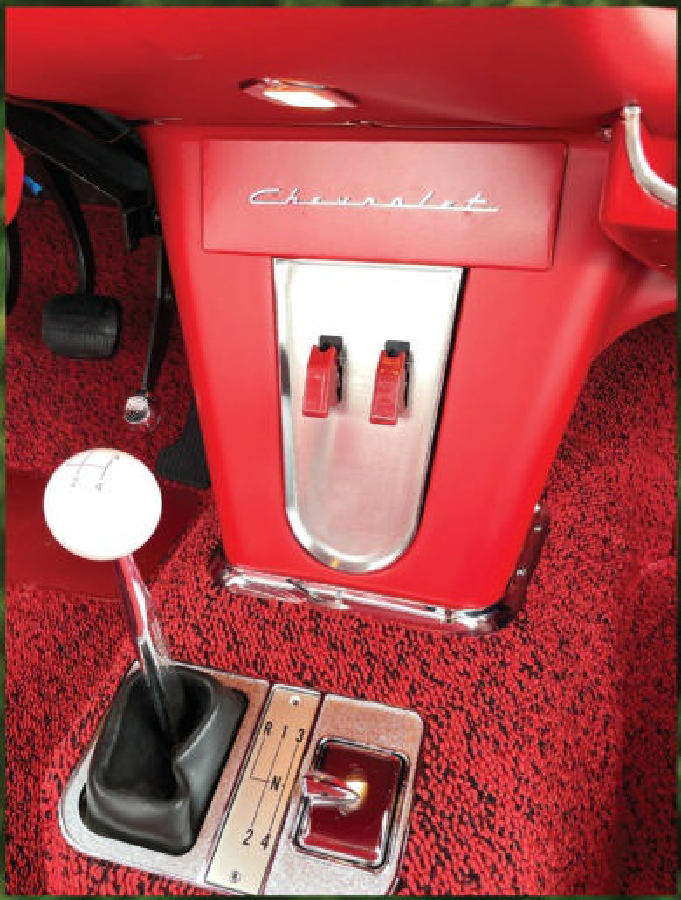
Out back, a Strange Engineering 9-inch rearend custom built by Chassis Service of Waukegan, Illinois, features a nodular iron centersection with Truetrac and 4.10 gears linked to Strange 31-spline axles. It's suspended in place by a combination of B'z Rods custom-adjustable 54-inch ladder bars with matching Panhard bar and double-adjustable Strange Engineering coilover shocks with Hyperco springs. Up front, a B'z Rods exclusive straight front axle wears custom forged spindles deftly matched to Posies Super Slide leaf springs and PRO tube shocks along with a Flaming River Vega-style steering box. To kill speed, a modified dual master pushes fluid through stainless lines to Wilwood Forged Dynalite Pro-Series 11-inch rotors with four-piston calipers anchored at each corner. Linking it all to the street you'll find 15x4.5 front Rocket Launcher wheels combined with 15x10 rear E-T Team III Five Windows capped with Pro-Trac/Coker 550-15 and Towel City Cheater Slicks, 29.5x10-15 respectively.

To give the Corvette plenty of gusto and dependability, Danny contacted Chevrolet Performance for one of their iconic ZZ427ci crate engines well known for packing plenty of robust power. Straight out of the crate, it's filled with a speed shop full of go-fast goods, starting with a cast-iron block with four-bolt main caps. Deep inside a forged steel crank with matching rods link to forged aluminum pistons getting bumped by a hydraulic roller cam. Up top, a set of aluminum oval port heads with 110cc runners generate plenty of seamless power, especially when matched to a Kinsler eight-stack injection from Alkydigger of Nashville, managed by a custom EFI system from Hyperaktive Performance Solutions of Fox Lake, Illinois. It barks to life with a modified Joe Hunt magneto and moves hot gases through a set of B'z Rods one-off fenderwell headers to a 2¼-inch stainless exhaust with Moroso mufflers. Three pedals move the goods with a Muncie M22 from Crash Enterprises packed with a Centerforce dual-friction clutch mated to a driveshaft from Chassis Service. It's all good for 467 rwhp.

While addressing the body, the team at Danny Ray's Custom Auto Body in Antioch, Illinois, confirmed that the shell was also 4¼ inches out of square due to the prior collision damage. Close inspection revealed repairs had been made with roofing shingles and asphalt to the inside of the passenger front fender, which is just plain crazy. The body was stripped clean and adjusted back to factory proportions and repairs, completed with N.O.S. factory parts.

R.P.M. IN 100'S
TACH
BATTERY




Chevrolet
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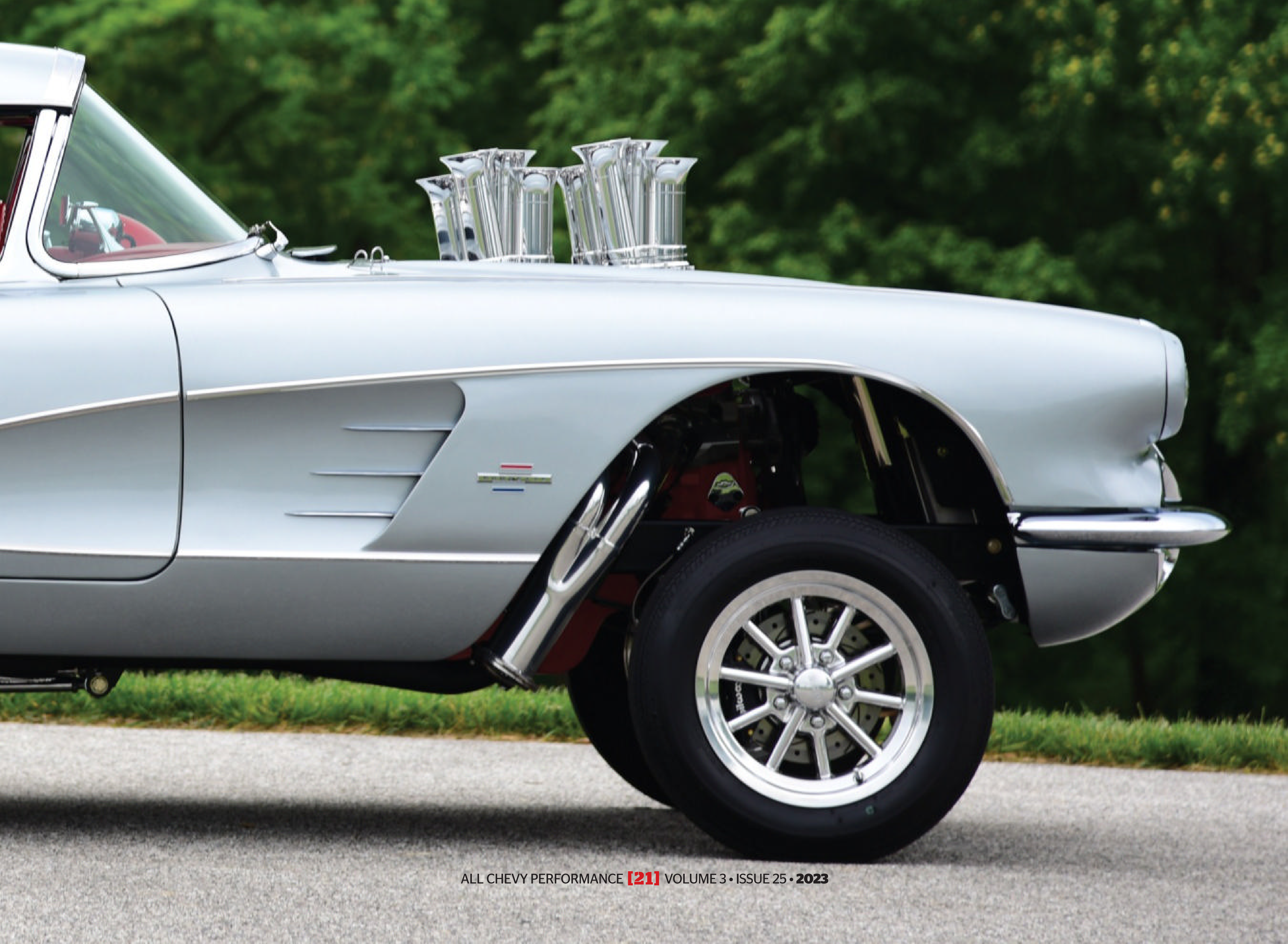

To accommodate the eight-stack injection, the factory hood was properly vented and reinforced while the body was made razor sharp with all gaps massaged to perfection. A lustrous coating of PPG High Metallic Silver vibe was laid down, bringing the project to life. All factory original exterior moldings, handles, grille, and bumpers were re-plated and polished by the team at Global Chrome Finishes of Waukegan, Illinois, which also handled plating the new rollbar.

Inside is like stepping back in time with the restored factory dash and gauges accented by a dash-mounted Sun Super Tach while a massaged original column wears a 15-inch-diameter factory steering wheel. Shifts fly through a Hurst stick modified by Crash Enterprises, complemented by a B'z-fabbed rollbar. It all comes to life though a custom wiring harness by B'z and Hyperaktive Performance Solutions. Tom Spooner of Bitchin Stitchin in Antioch, Illinois, recovered the factory bucket seats in red vinyl complemented by matching side panels and Tuxedo Red carpeting.

This is one Corvette gasser that's laying down plenty of miles with Danny at the wheel, and to us that's as good as it gets!

TECH ✓

OWNER: Danny Jones, Joppa, Maryland
VEHICLE: '61 Corvette

Engine
TYPE: Chevrolet big-block ZZ Crate
DISPLACEMENT: 427 ci
COMPRESSION: 10.1:1
BORE: 4.250
STROKE: 3.750
CYLINDER HEADS: Aluminum oval port, 110cc chambers
ROTATING ASSEMBLY: Forged steel crank and rods, forged aluminum pistons
VALVETRAIN: Aluminum roller-style
CAMSHAFT: Hydraulic roller
INDUCTION: Kinsler eight-stack injection by Alkydigger
IGNITION: Joe Hunt, custom
EXHAUST: B'z Rods custom fenderwell headers, 2¼ stainless exhaust, Moroso mufflers
OUTPUT: 467 rwhp at 5,700 rpm

Drivetrain
TRANSMISSION: Muncie M22, custom by Crash Enterprises
REAR AXLE: Strange Engineering 9-inch, nodular iron center, 4.10 gears, 31-spline Super Street axles, Eaton Truetrac

Chassis
CHASSIS: Custom by B'z Rods
STEERING: Flaming River Vega-style
FRONT SUSPENSION: B'z Rods straight axle and spindles, Posies Super Slide leaf springs, PRO Shocks, tube
REAR SUSPENSION: B'z Rods custom ladder bars, Panhard bar, PRO Shocks, coilover
BRAKES: Wilwood Forged Dynalite Pro-Series11-inch drilled-and-slotted rotors, four-piston calipers

Wheels & Tires
WHEELS: Front 15x4.5 Rocket Launcher, rear 15x10 E-T Team III Five Window
TIRES: Front Pro-Trac/Coker 550-15, rear Towel City Cheater Slicks 29.5x10-15

Interior
SEATS: Stock
UPHOLSTERY: Red vinyl
GAUGES: Stock, Sun Super Tach, vintage
STEERING: Stock-style 15-inch
CARPET: Stock, Tuxedo Red
SHIFTER: Hurst, custom by Crash

Exterior
PAINT: PPG High Metallic Silver
HOOD: Stock, modified

MARYLAND
EH·94·35
EXP 3 31 61

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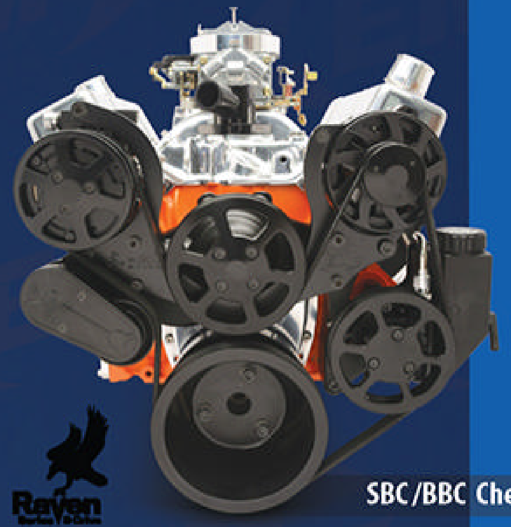

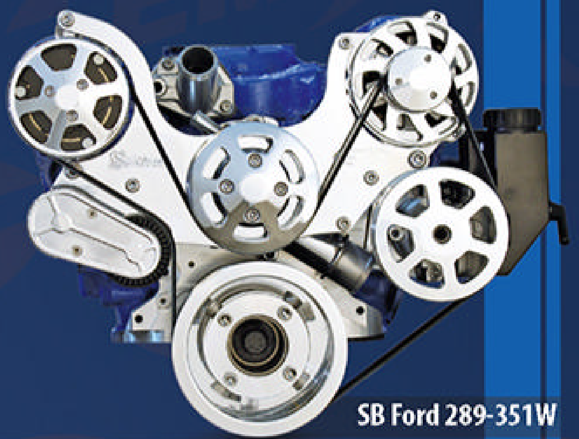

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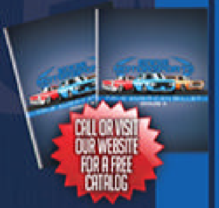

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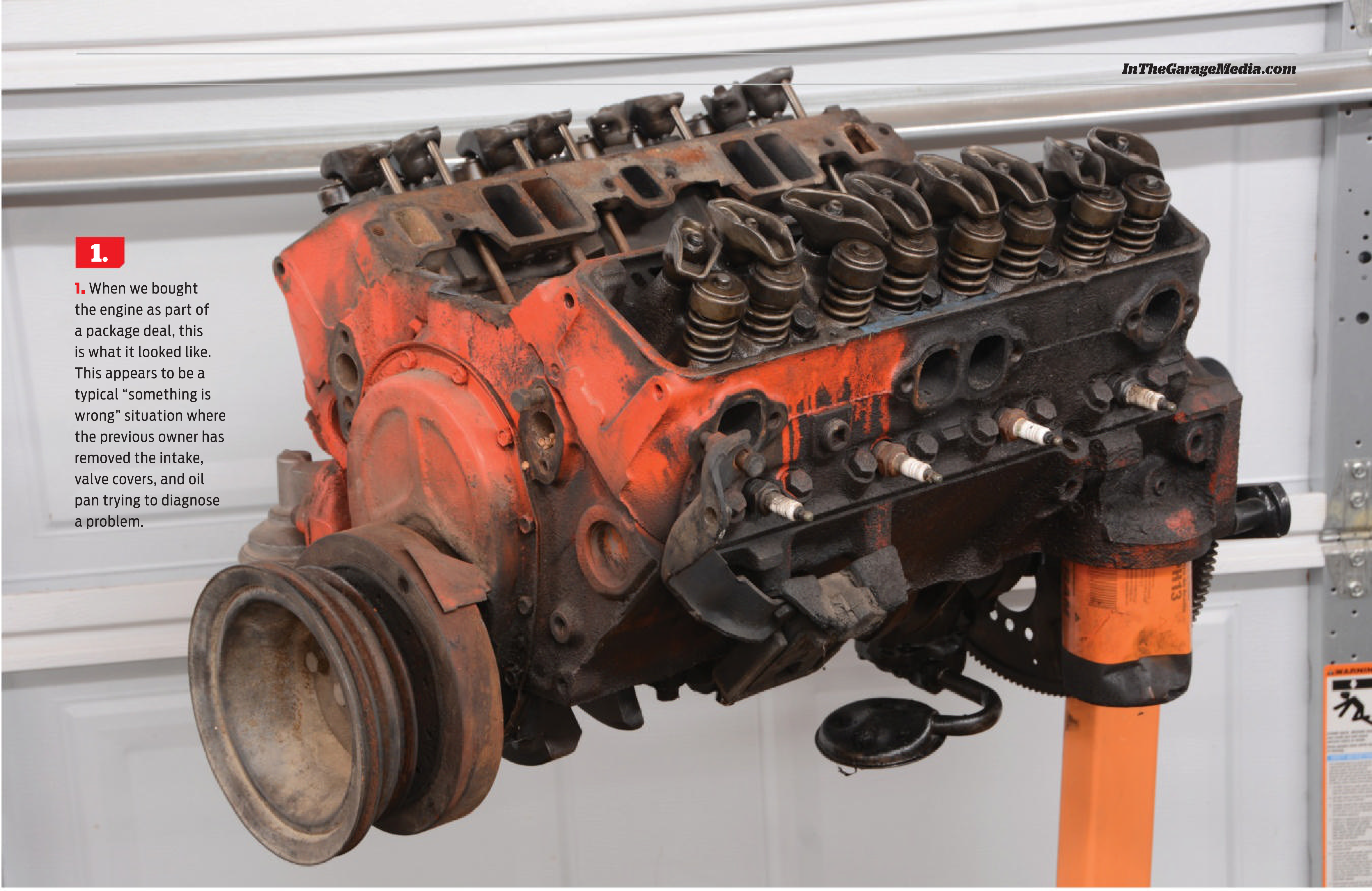


1.

1. When we bought the engine as part of a package deal, this is what it looked like. This appears to be a typical "something is wrong" situation where the previous owner has removed the intake, valve covers, and oil pan trying to diagnose a problem.

BY **TOMMY LEE BYRD** PHOTOGRAPHY BY **THE AUTHOR**

TRASH OR TREASURE

If you've been around old cars for very long, you've experienced the pressure and anxiety of buying a used engine. It's always a gamble, whether it's a freshly plucked junkyard engine or an abandoned build that someone claims is "ready to assemble." Occasionally, you'll get lucky, but there are plenty of duds and so-called "Corvette engines" out there, so beware.

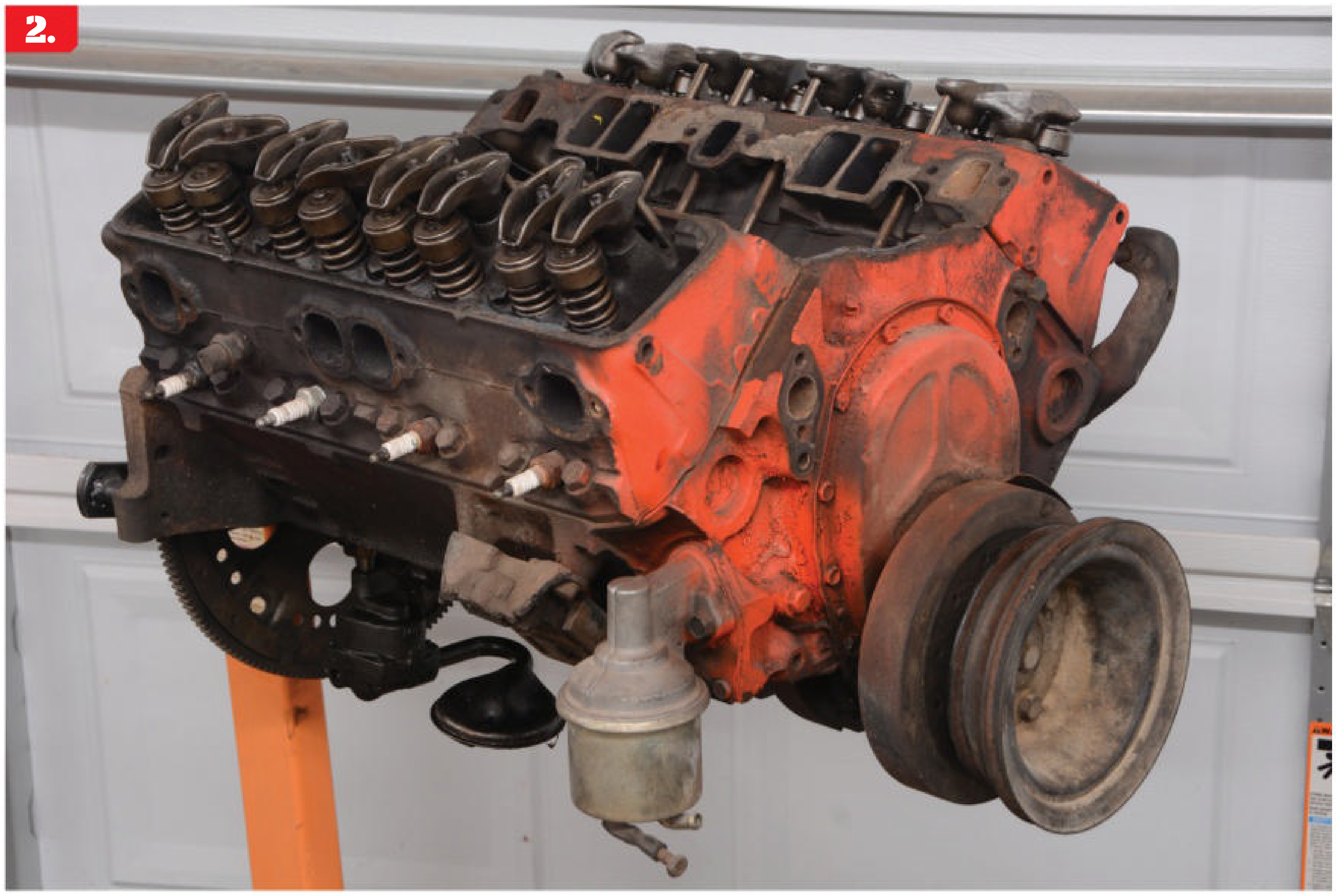
Our intention with this article is to give you some clues for quick inspections when you're under the gun, and some tips for further investigation when you have time to run the numbers.

In the case of our subject engine, we picked it up in a package deal with a ratty late-'70s Nova. No information was provided with the car or engine, so we took a chance because the price was right and we needed to get the deal wrapped up quickly. Upon arrival, we were pleased at first glance because the engine has a set of small Camel Hump heads (also called Double Hump) with accessory holes. These heads were used on performance engines (300 hp and up) and were used on iconic engines like the DZ302 and LT-1 from 1969 through the early '70s, so that was an instant win. The easiest way to determine early (large) Camel Hump and late (small) Camel Hump is the accessory holes and thick bosses cast into the front of the head. The bottom line is that the cylinder heads gave us confidence in our purchase the moment we saw the engine. Even if the rest of it was trash, the heads were worth the price of admission.

After we got the engine home, we were able to give it a more thorough inspection, and we found some good things and some unfortunate things, which likely led to the engine's removal and disassembly.

To identify this engine, we used a combination of block casting numbers, block suffix code, block casting date code, head casting numbers and date codes, crankshaft casting numbers, and intake manifold casting numbers. It can be confusing because certain casting numbers were used on multiple engines, and the same can be said for suffix codes, but we used the process of elimination to narrow down the exact configuration of our mystery small-block purchase. This engine could've been a 267ci boat anchor, or a super-rare beast from the muscle car era, so let's dig into the process of identifying this crusty small-block Chevy and find its history.

2.



2. Upon first inspection, we spotted the medium-sized harmonic balancer. Early small-blocks, like the 265, 283, and early 327, had a very small balancer, while the trusty 305 had a much larger balancer; this one falls in the middle, which is a good sign. There are a few exceptions to the balancer size, such as the large balancers used on the legendary Corvette 327s from the mid '60s. Also note that 400s had a specific counterbalanced design due to being externally balanced.

3. Another immediate clue to this engine's identification are the later Camel Hump heads with accessory holes. Without even looking up the numbers, we know these heads are desirable based on the fact that they were used on 300hp and higher engines from 1969-72.

4. The first place we typically look is the casting number on the back of the block. There are dozens of numbers used from 1955 through the '90s, but there are a few standouts that indicate a performance engine. Common casting numbers for performance engines include 3970010, but ours reads 3956618, another great number to put in your memory bank. This means the engine could be a '69 DZ302, a '68-69 327, or a '69 model 350.

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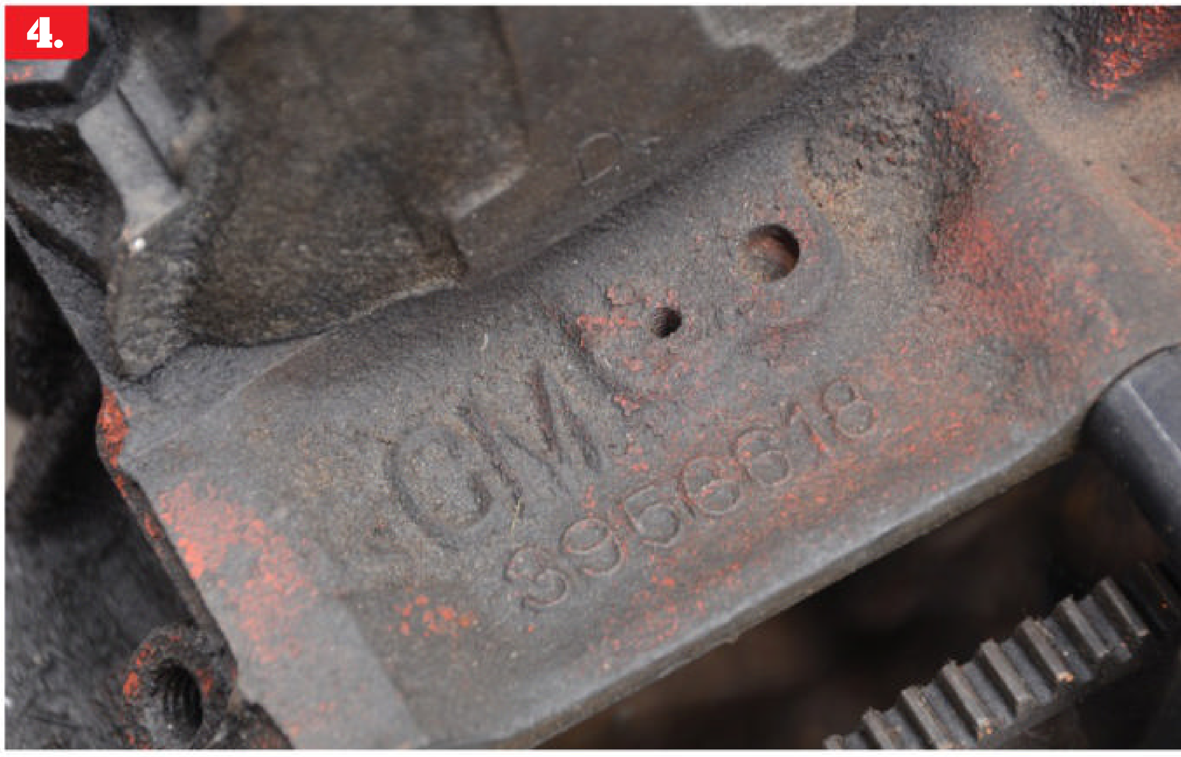
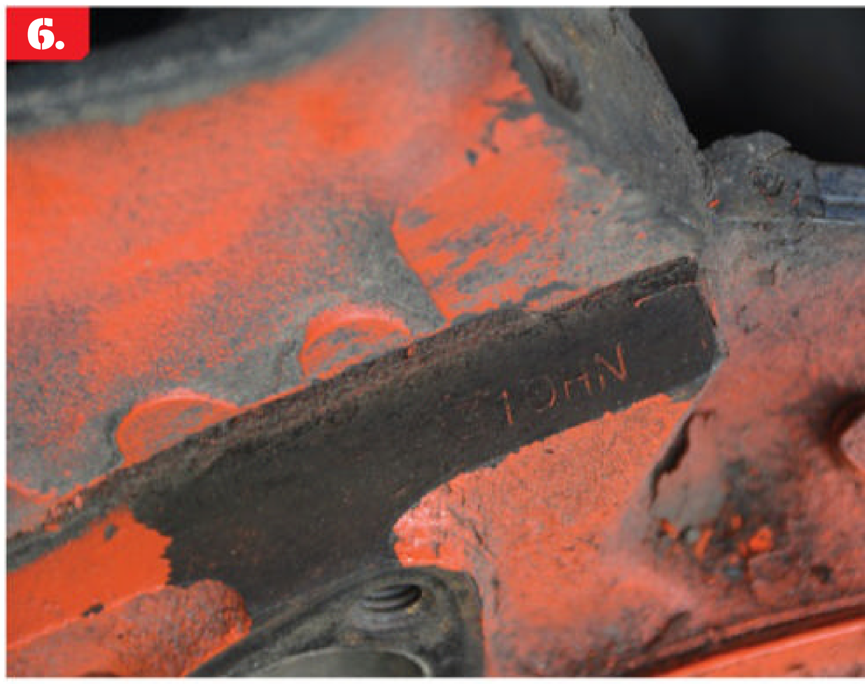


5.

5. The next place to look is the small pad on the front of the engine (passenger side). This area is hard to see if the alternator is in place, but ours was stripped down, giving us easy access. There is a series of numbers and letters stamped into the pad, and the most important is the "suffix," meaning the last two or three letters.

6. As we zoom in a little closer, our engine has the suffix code of "HN." Once again, this gives us multiple options. HN designates a '65 327/375 hp, '68 327/250 hp, or a '69 350/300 hp. An important note regarding these stampings: Any stamping with the prefix CE indicates a replacement block.

6.



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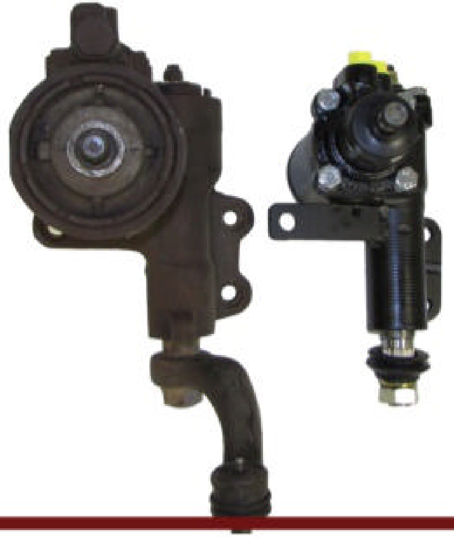
Factory vs Borgeson Comparison



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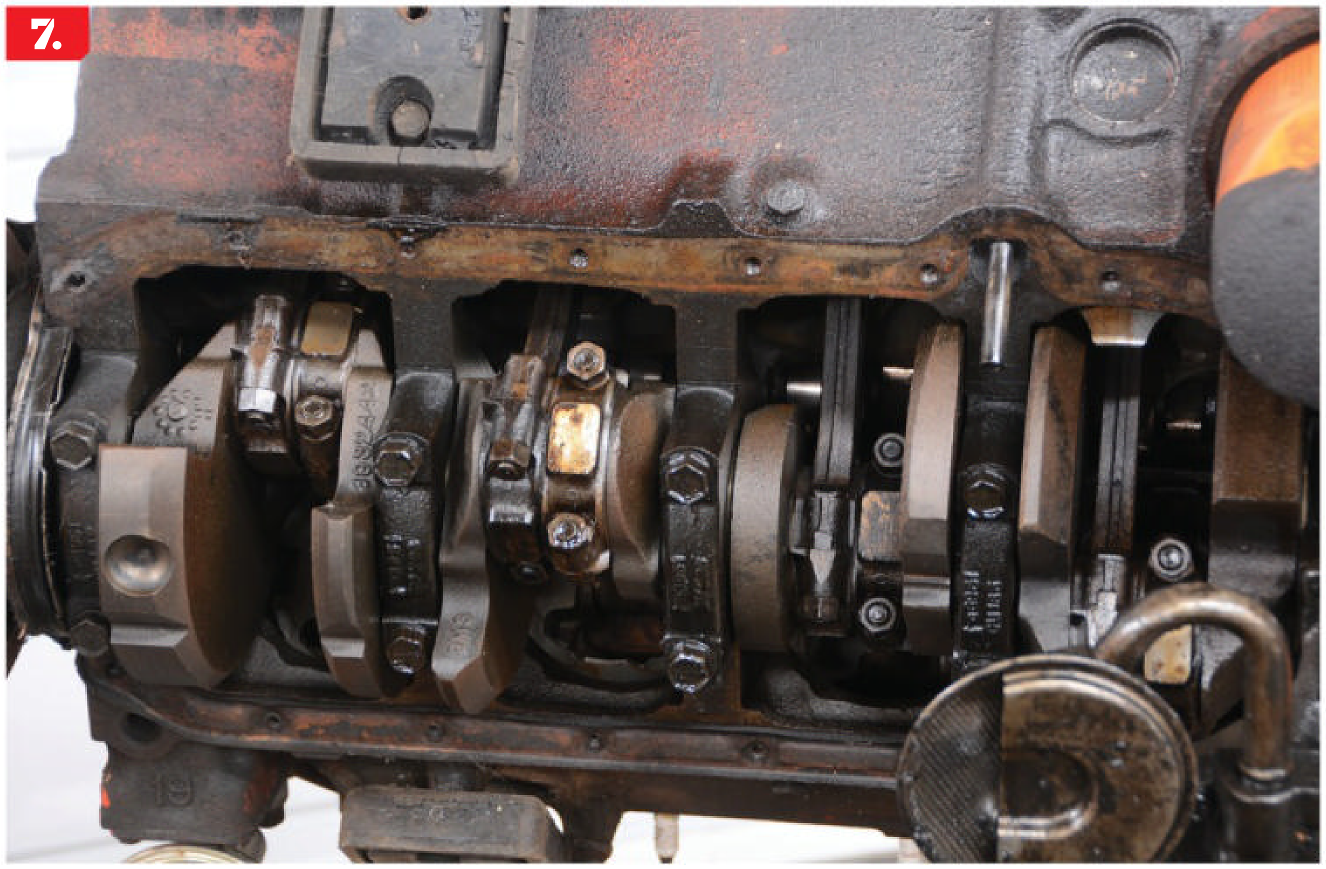
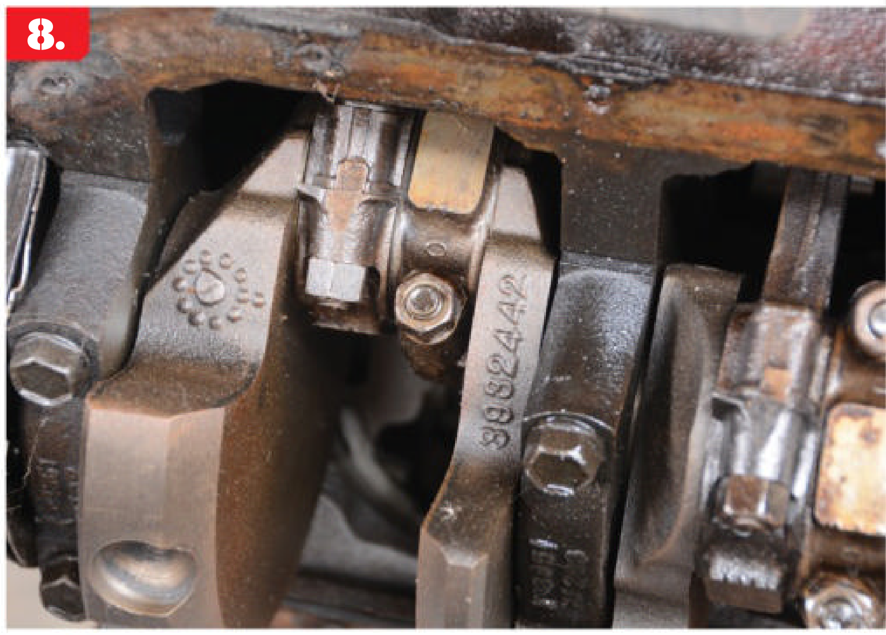


7. Our next move was to inspect the rotating assembly and decode the crankshaft to determine whether it was a 3.25-inch stroke (327) or 3.48-inch stroke (350). The first observation is the use of two-bolt main caps. While some Chevy guys only believe in four-bolt mains, these two-bolt blocks were plenty strong.

8. A closer look at the crankshaft shows a casting number of 3932442. Here we go again with multiple answers, as this was a very common cast-iron large journal crankshaft used from 1968-82 in everything from 267s to 350s. The bottom line is that it's a 3.48-inch stroke, helping us to determine that our engine is a 350.

8.



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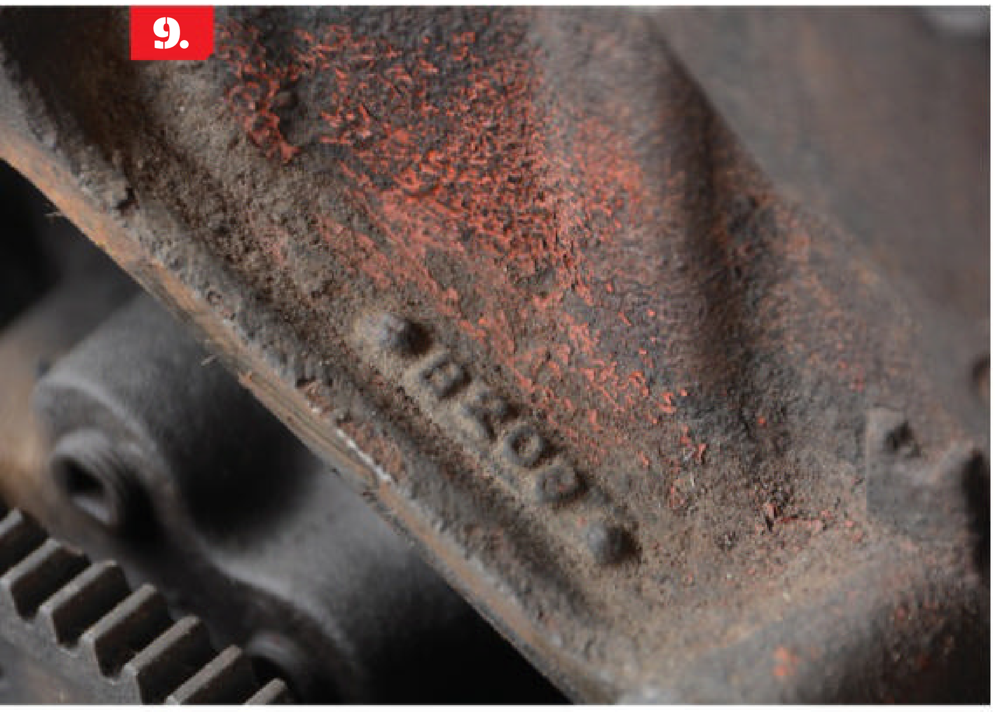
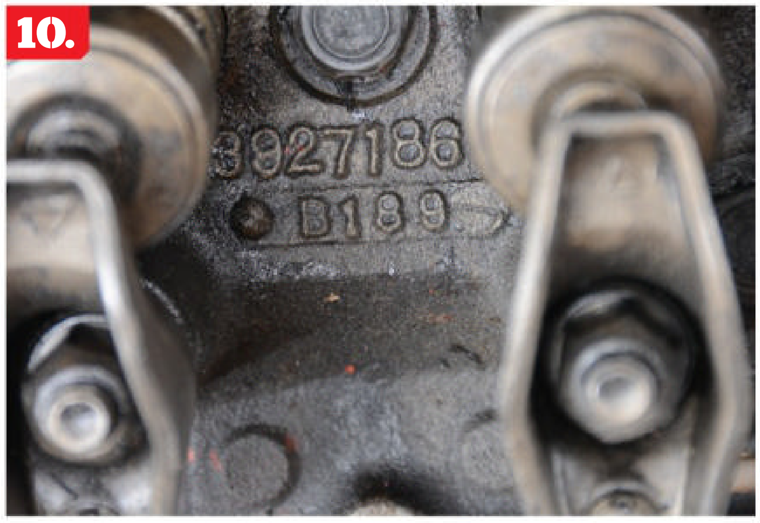


9. Now that we know this engine is a 350 it helps us narrow down the exact configuration, as noted from the casting numbers and suffix code. It is a '69 350/300 hp, a pretty desirable piece. The date code confirms it, as it reads "B209," designating a block casting date of February (B), 20th (20), 1969 (9).

10. The cylinder head casting number and casting date code is visible with the valve cover off. The 3927186 casting number, often referred to as "186," could have 1.94/1.50-inch valves or 2.02/1.60-inch valves, but we're betting on the smaller combo, as this engine was 300 hp. The date code "B189" means February 18, 1969.

10.



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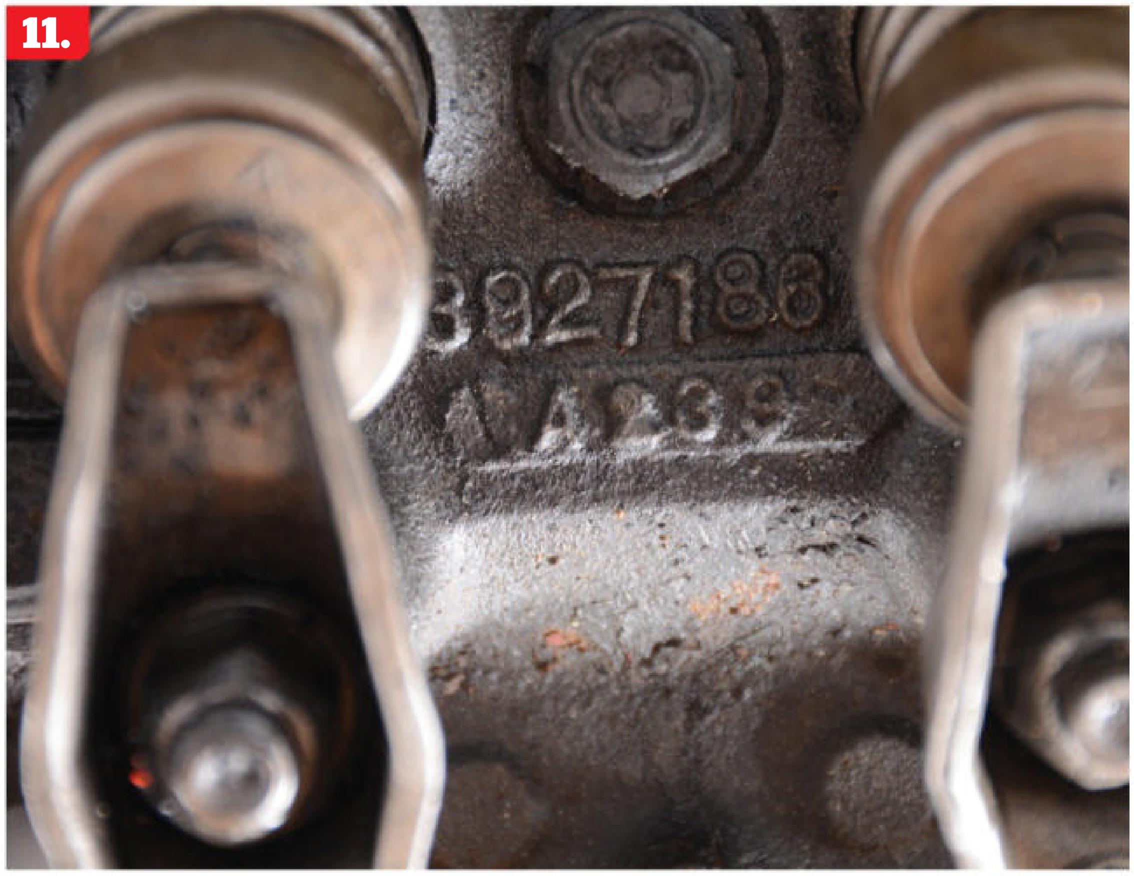

12.

11. On the other cylinder head it features the same 3927186 casting number but features a different casting date. This one reads "A239," designating a casting date of January 23, 1969. If we look back at the stampings on the front pad of the block, it will give us the build date (no year). Ours reads 0310, meaning March 10.

12. Our engine came with a pile of parts, including a cast-iron four-barrel intake manifold with a semi-modern Holley carburetor (with an adapter). This isn't something we'd likely use on a high-performance engine, but a factory four-barrel intake is usually worth hanging onto.

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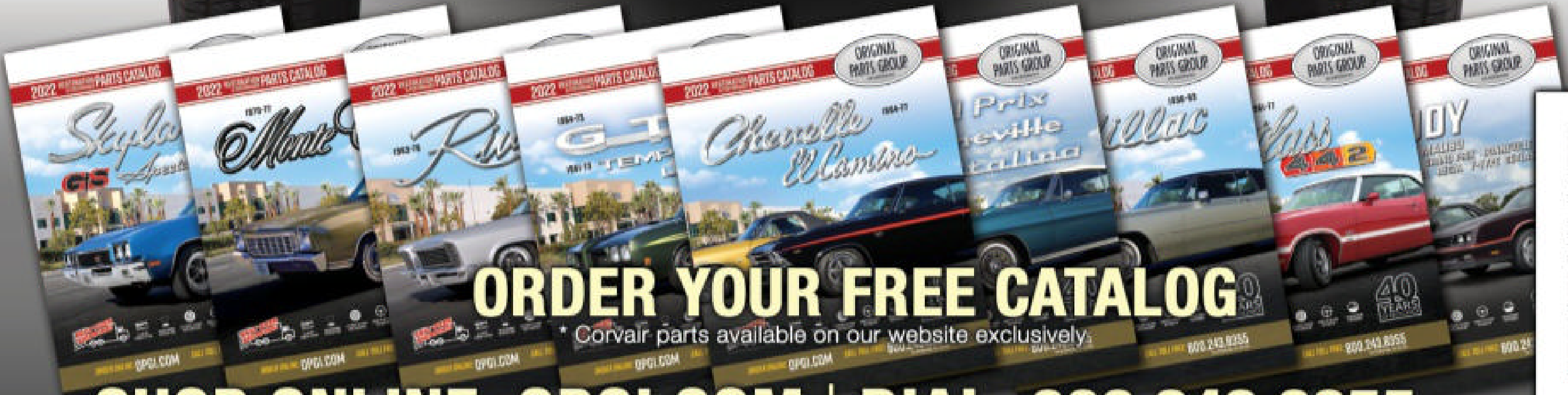

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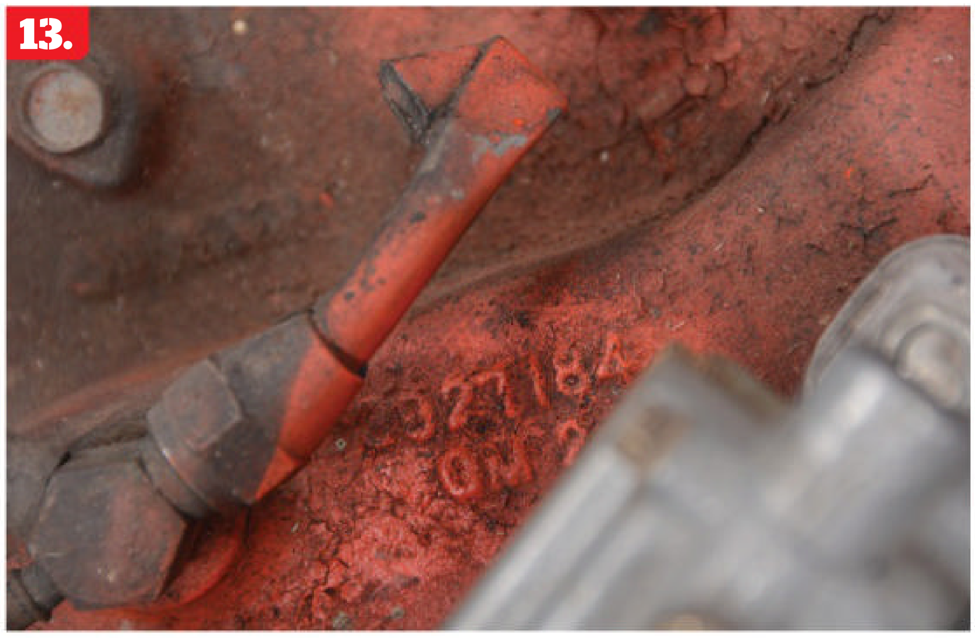


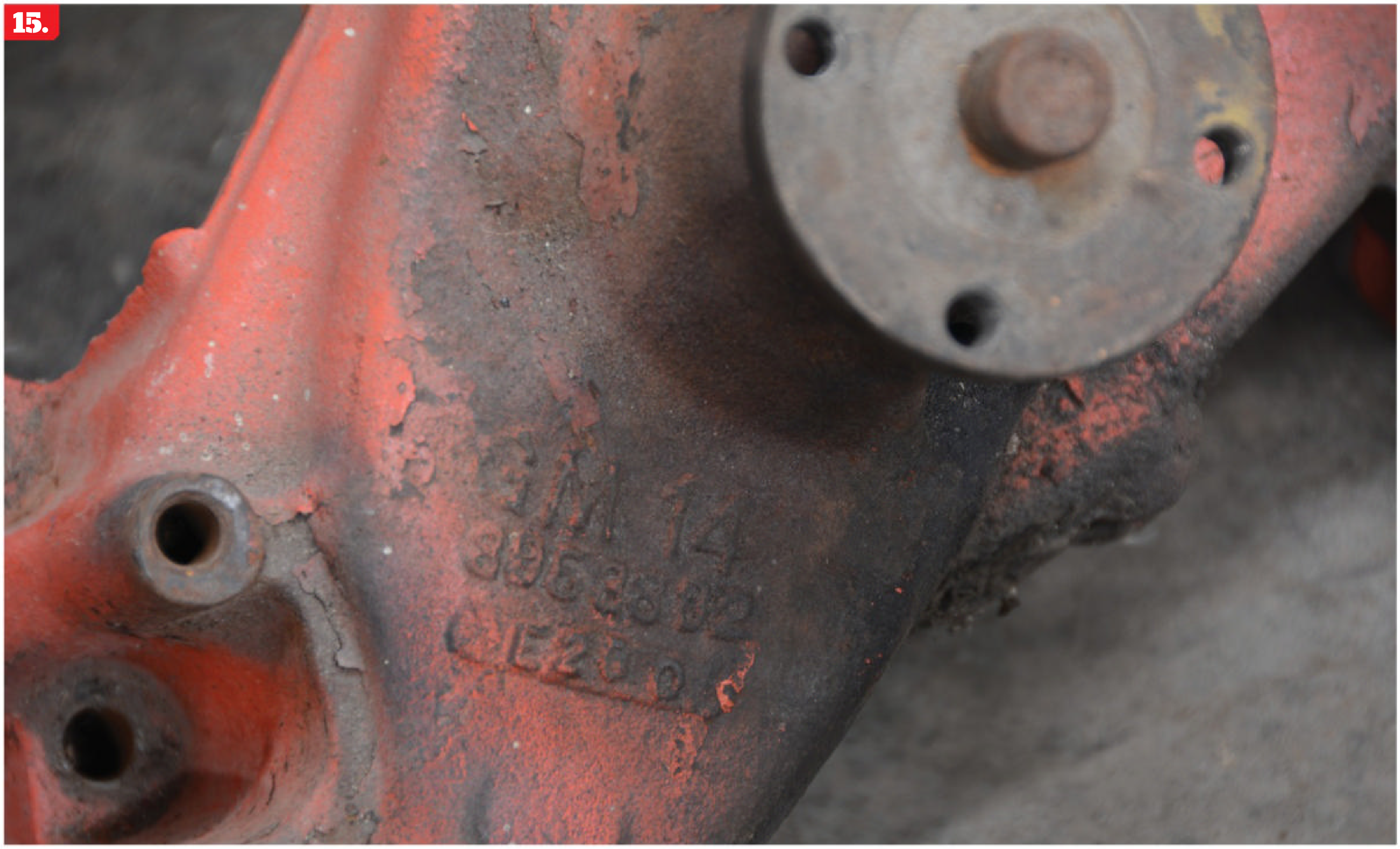
14.

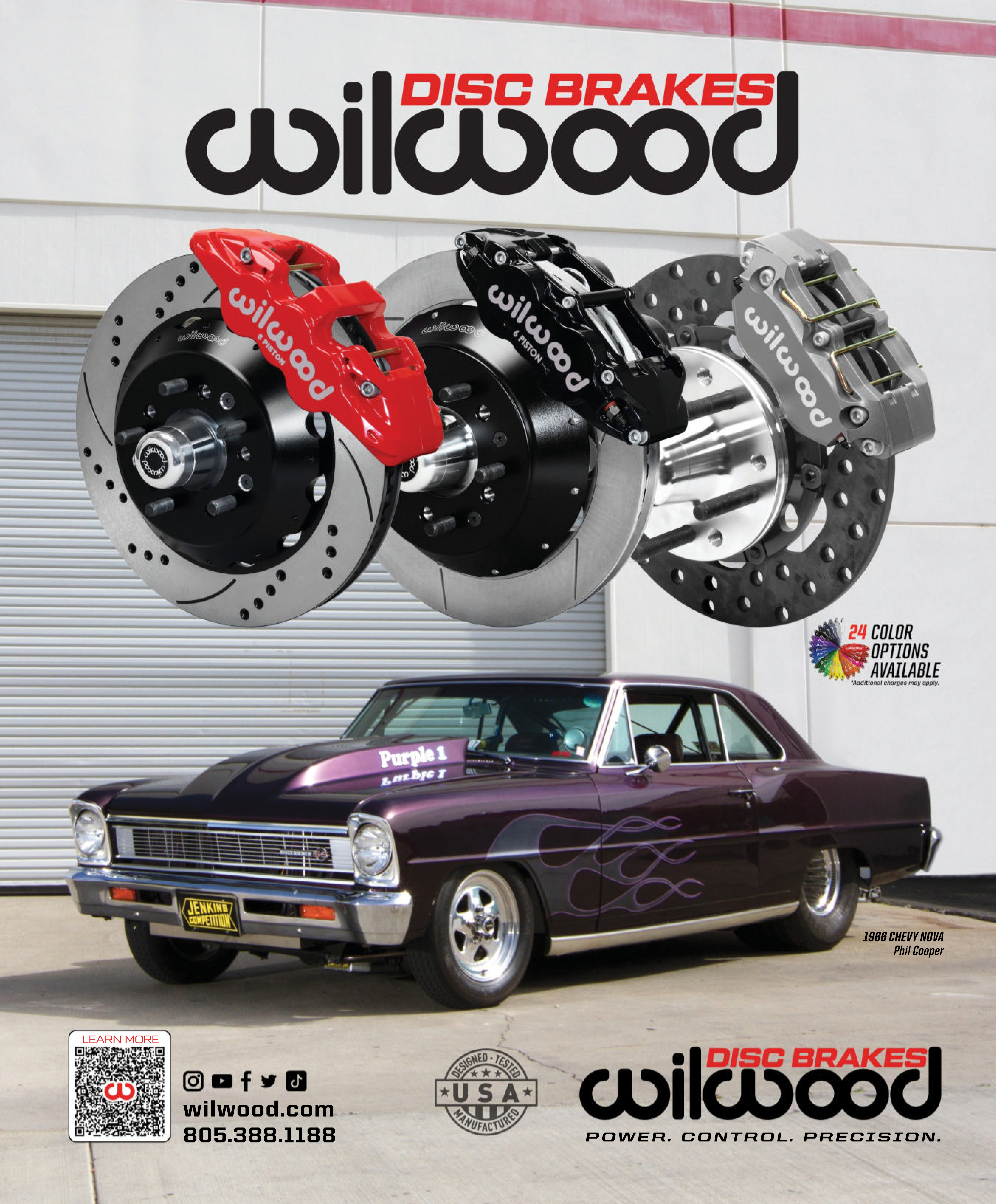
13. The intake manifold casting number is 3927184, which designates a '69 350 cast-iron intake for a Quadrajet carburetor, used on 250-, 300-, and 350hp engines. This intake is a perfect match for the engine, a rare find because the heavy iron intakes were typically swapped for aftermarket aluminum intakes somewhere during an engine's journey.

14. The pile of parts included a cast-iron water pump with GM casting numbers. Again, we would probably toss this aside in favor of a modern replacement, but it never hurts to check those numbers.

15. With a casting number of 3953892, and a date code of E200, we're looking at an original-style water pump but likely a replacement due to the date code discrepancy. One of the most desirable water pump casting numbers is 3953692, which was the code used on DZ302 engines.

15.





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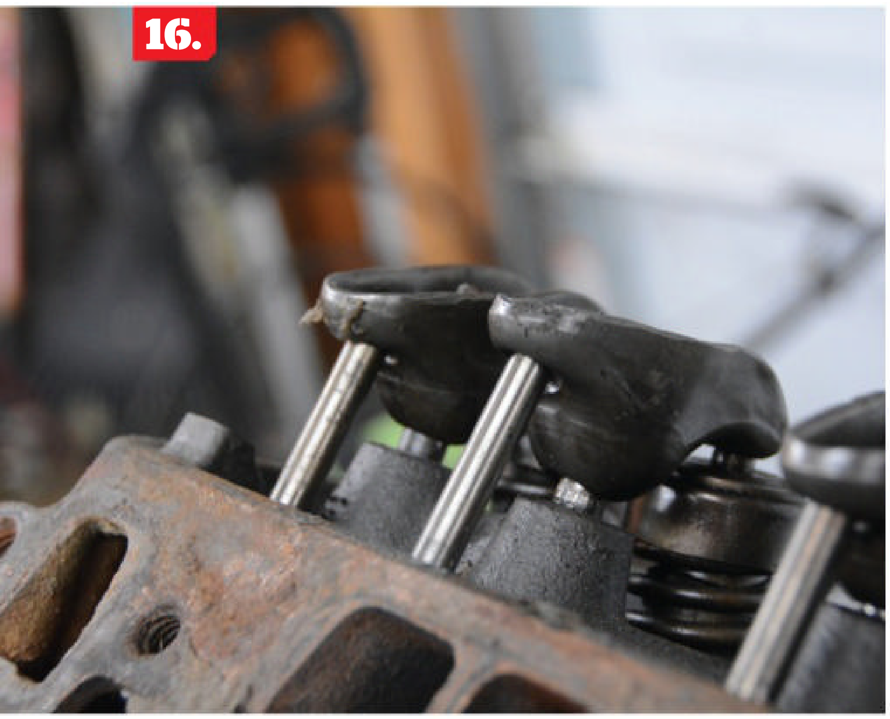


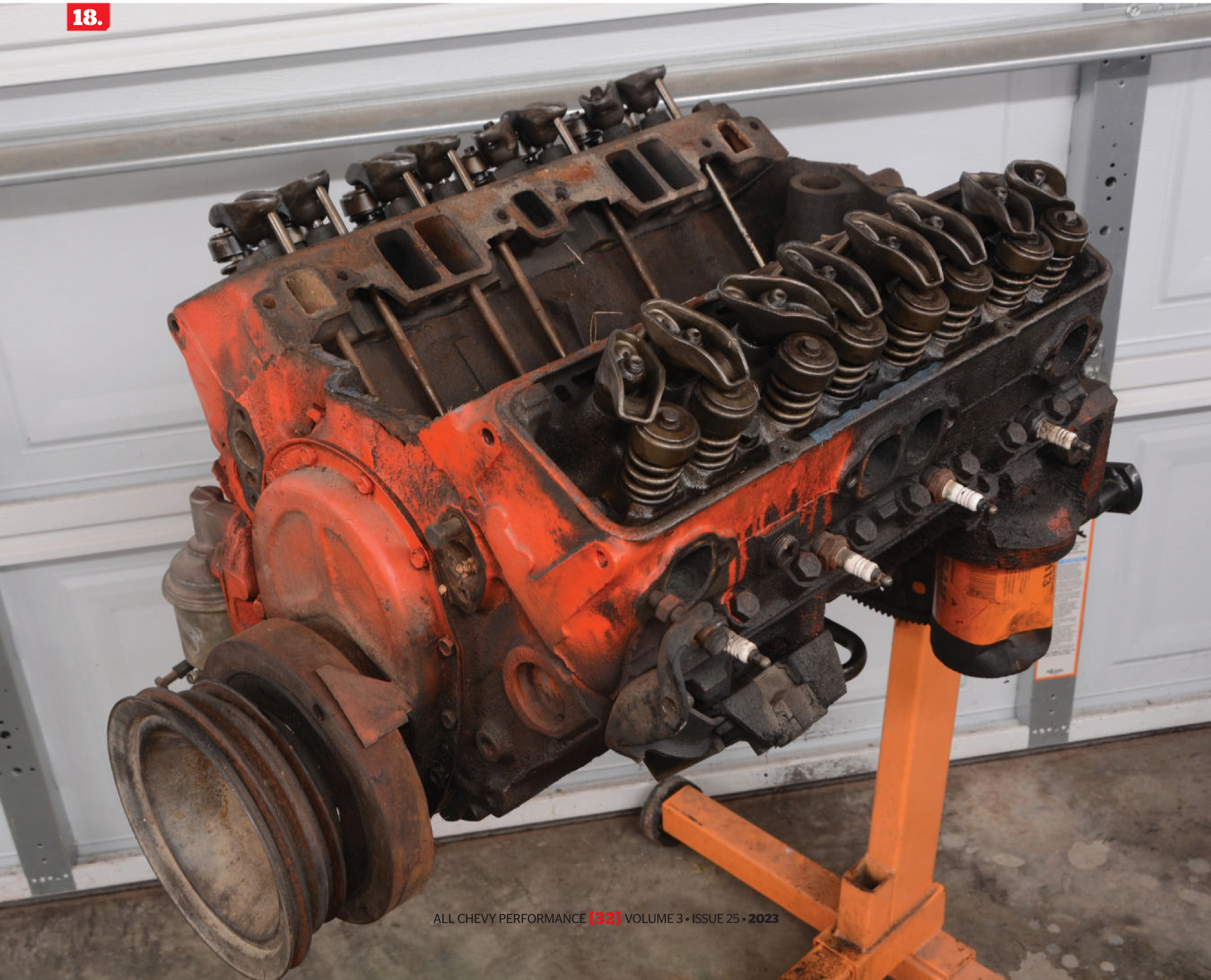
16. Since this engine seems to be mostly original, it doesn't look like it's been someone's hot rod project. There is a chance a larger camshaft was installed, as we noticed some issues, like the rocker arm studs beginning to pull out of their bosses. These press-fit studs often pull out when a more aggressive camshaft is used or there is excessive wear.

17. Despite the pulled studs, these 186 Camel Hump heads are worth saving. We can send them to the local machine shop and have them drilled and tapped for screw-in studs and milled for guideplates.

18. What's the verdict? This gamble turned out to be a '69 350/300 hp that looks like a budget-friendly rebuild project. We could keep it original and sell it to someone needing a numbers-correct engine for a restored muscle car or give it a few updates and put it in literally any project car needing a stout small-block.

17.

18.



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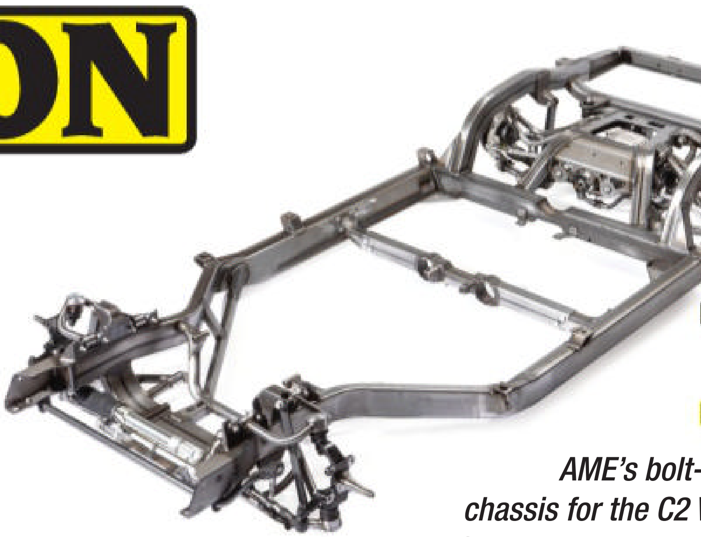

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BY **NICK LICATA** PHOTOGRAPHY BY **JOHN JACKSON**

INTOXIC

CATION

MIRANDA BUILT CUSTOM '69 CAMARO

In the summer of 1969, Bryan Adams bought his first real six-string at the five and dime, Rolling Stones guitarist Brian Jones purchased an old home belonging to A.A. Milne (author of the *Winnie-The-Pooh* books) and later that year was found dead in the pool, and on August 15, 1969 the Woodstock Music and Art Fair took place in upstate New York. It was three days of love, peace, and music that featured 32 planned acts and two unplanned births. It's hard to believe but those two babies would now be 53 years old.

Also born that same year was the '69 Camaro, a car that the GM engineers had no idea would arguably be the most popular muscle car ever built over 50 years later—a remarkable feat that I'm sure no one saw coming when they first rolled off the assembly line. You would've had to build a timeless piece of machinery with body lines that would hold up visually over a half-century later, which is just what Chevrolet did.

Today, the ’69 Camaro remains so versatile that it conforms to just about every build style imaginable. Its personality easily drifts from Pro Touring, drag racer, restomod, Pro Street, gasser, and in my hometown it even carried its own as a lowrider.

Ted Westrickle confesses that owning a ’69 Camaro has been a dream of his for as long as he can remember. “My father grew up with a passion for cars as he’s owned and worked on classics most of his life,” Ted states. “I didn’t inherit his mechanical ability, but I’ve always had an interest in cars, especially the Camaro.”

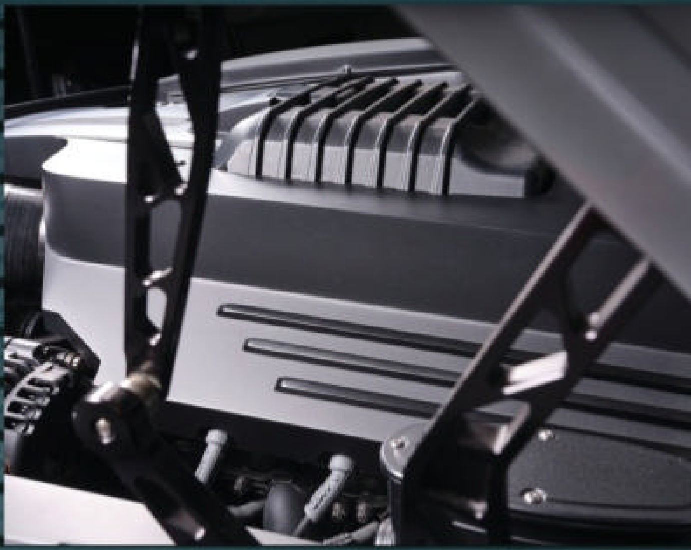
Years later that interest failed to fade and had Ted looking for a ’69 Camaro he could turn into a restomod—the classically restored cars left little to be desired. He came across the Miranda Built ’67 Nova and was impressed with that build style and the amazing custom fabrication work. Once he saw the NFA ’69 Camaro in progress he knew right then he wanted the Boynton Beach, Florida, shop to build his Camaro.

With the decision made, Ted put a call into Jeremy at Miranda Built to discuss the possibility of building him a Camaro; a car he still did not possess. “To my surprise, Jeremy was willing to take on the build even though I lived 1,200 miles away from their shop,” Ted excitedly says. “Jeremy understood my somewhat incoherent vision and was able to decipher my scattered thoughts and develop them into a concise plan.”

Soon after, Jeremy and his Miranda Built cohort Tim Allen came across a project in Florida consisting of a body, front end, and a VIN number. Game on!

Power and reliability were two important aspects to the build, so starting underhood they employed a mostly stock, plenty capable, Chevrolet Performance LSA crate engine. They dressed it in a custom one-off Miranda Built engine cover to coincide with the custom close-out panels. A custom-painted Wegner serpentine system and Ringbrothers hood hinges blend with the uniform scene that gives off a stylish yet rambunctious demeanor.

A set of $1\frac{7}{8}$-inch Ultimate Headers headers release spent fuel to a custom 3-inch exhaust system topped with a set of Borla Pro XS mufflers offering an aggressive note to reveal the engine’s arrogant attitude and unleash every bit of the LSA’s 655 hp.



To accept that sort of punch, Ted went to RPM Transmissions for one of their hearty Level 7 4L65E overdrive transmissions. Rated at 800 hp, the package easily handles the Camaro's offerings with plenty of room to spare. A bulletproof Strange Engineering S60 rearend stuffed with 3.70 gears, Eaton Truetrac, and Strange 31-spine axles is a time-proven recipe for pavement-pounding performance.

Ted pulled no punches in the handling department and sat the Camaro on a Roadster Shop SPEC Series chassis complete with a four-link rear suspension system and Afco 10-way adjustable coilover dampers out back along with a matching shock arrangement up front. Wilwood spindles offer the benefit of improved handling and stellar stance on the front side and welcome the 1$^{1}/_{8}$-inch sway bar's ability to keep lateral dive to a minimum.

All that speed comes to an abrupt stop with Wilwood binders and compliance of the Michelin Sport rubber wrapped around the ADV.1 Track Spec wheels. Ted kept the braking process a manual affair with a Wilwood $^{7}/_{8}$-inch bore master cylinder sans booster for exceptional braking prowess.

The bodywork is the focal point of this build, where Jeremy and the crew at Miranda Built strutted their stuff by fabricating numerous one-time parts. We'll let Jeremy explain how it all went down. "We custom-made a lower front spoiler, tucked and shaved the front bumper, made custom inlays for the hood, shaved the wiper cowl, driprails, and antenna. We built custom quarter-panel inserts, a custom rear spoiler, rear diffuser, and one-off rocker panels." Jeremy continues, "The aero kit is carbon fiber and all the panels are made by Miranda Built out of aluminum. They were bodyworked, primed, then sent to Fiber Forged Composites to have one-off molds reproduced in exposed carbon fiber."

Relic Restomods took on final bodywork responsibilities and smoothed the panels to perfection prior to Mitch at Relic laying down an exquisite sheet of PPG Nardo Gray. Bones Custom stepped in and enriched the hood with flat Carpathian Gray paint and a Mirage Orange pinstripe to accentuate the Miranda Built custom inlay for a striking appearance.

Oftentimes, extensive bodywork can rob a car of its heritage, but the Miranda crew respected the original body lines of the '69 Camaro and used their talent to finesse rather than destroy the General's already impeccable canvas.

The interior reflects the same race-inspired notion with a host of custom one-offs and aftermarket provisions to present a steady stream of performance victuals. The dash is an aluminum Miranda custom piece complemented with a carbon piece by Fiber Forged and populated with a host of Auto Meter informants.

Avant-Garde Design was called in to create a sporty captain's quarters that consists of custom door panels and console cloaked in black and graphite Alcantara suede leather brought together with the Daytona black carpet. The Sparco Carbon Black seats provide a secure environment as the Corbeau harness is anchored by the Miranda Built custom four-point chromoly rollbar. That one-off Sparc steering wheel displays well with the Clayton Machine Works pedals.

A Vintage Air HVAC unit provides proper ambient temps that blow through a set of custom Restomod Air vents, and a set of Focal Utopia speakers deliver the soundtrack provided by an Alpine iLX-650 head unit blasting Ted's favorite playlist. Once again Miranda Built provided a custom scene while conscious to not overstep the vintage Camaro's OG '69 boundaries. It's an area where excess can limit success.

TECH

OWNER: Ted Westrickle, Pittsburgh, Pennsylvania
VEHICLE: ’69 Chevy Camaro

Engine

TYPE: Chevrolet Performance LSA
DISPLACEMENT: 376 ci
COMPRESSION RATIO: 9:1
BORE: 4.065 inches
STROKE: 3.622 inches
CYLINDER HEADS: Aluminum L92-style port
ROTATING ASSEMBLY: Forged crankshaft, powdered metal rods, hypereutectic aluminum pistons
CAMSHAFT: Hydraulic roller, 0.492/0.480, 198/216 degrees duration at 0.050
INDUCTION: 1.9L Eaton TVS supercharger
ASSEMBLY: GM
EXHAUST: Ultimate Headers $1^{7}/_{8}$ inch, Miranda Built custom 3-inch exhaust, Borla ProXS mufflers
ANCILLARIES: Powermaster alternator, Spal electric fan, MSD ignition, Afco aluminum radiator, Miranda Built custom engine cover and closeout panels, Ringbrothers hood hinges, Wegner serpentine drive system, Rick’s Tanks 19-gallon fuel tank
OUTPUT: 655 hp and 550 lb-ft

Drivetrain

TRANSMISSION: GM 4L65E, RPM Transmissions Level 7 upgrade, RPM Transmissions 2,800 stall converter
DRIVESHAFT: 3-inch chromoly
REAR AXLE: Strange S60 rearend, Eaton Truetrac limited-slip differential, 3.70 gearset, Strange 31-spline axles

Chassis

CHASSIS: Roadster Shop SPEC Series
FRONT SUSPENSION: Wilwood spindles, Afco adjustable coilover shocks, Roadster Shop $1^{1}/_{8}$-inch sway bar
REAR SUSPENSION: Roadster Shop four-link suspension, Afco adjustable coilover shocks, Roadster Shop Panhard bar
BRAKES: Wilwood 15-inch rotors, six-piston calipers front and rear, Wilwood $^{7}/_{8}$-inch bore manual master cylinder, Wilwood proportion valve

Wheels & Tires

WHEELS: ADV.1 Track Spec (19x9 front, 20x12 rear)
TIRES: Michelin Pilot Sport; 265/30R19 front, 335/25R20 rear

Interior

UPHOLSTERY: Alcantara Suede leather
COLOR: Graphite
CARPET: Daytona black
INSULATION: DEI Boom Mat
INSTALLATION: Avant-Garde Design (Palm City, FL)
DOOR PANELS: Custom by Avant-Garde
SEATS: Sparco Carbon Black
SAFETY HARNESS: Corbeau
STEERING: Ididit column
STEERING WHEEL: Sparc Industries custom
DASH: Custom aluminum by Miranda Built, carbon-fiber insert by Fiber Forged Composites
CENTER CONSOLE: Custom by Avant-Garde Design
INSTRUMENTATION: Auto Meter
HVAC: Vintage Air
VENTS: Custom by Restomod Air
PEDALS: Clayton Machine Works
ROLLBAR: Chromoly by Miranda Built
WIRING: Infinity Box
HEAD UNIT: Alpine ILX650
AMPLIFIER: JL Audio 750/5
SPEAKERS: 6x5 Focal Utopia
STEREO INSTALLATION: Avant-Garde

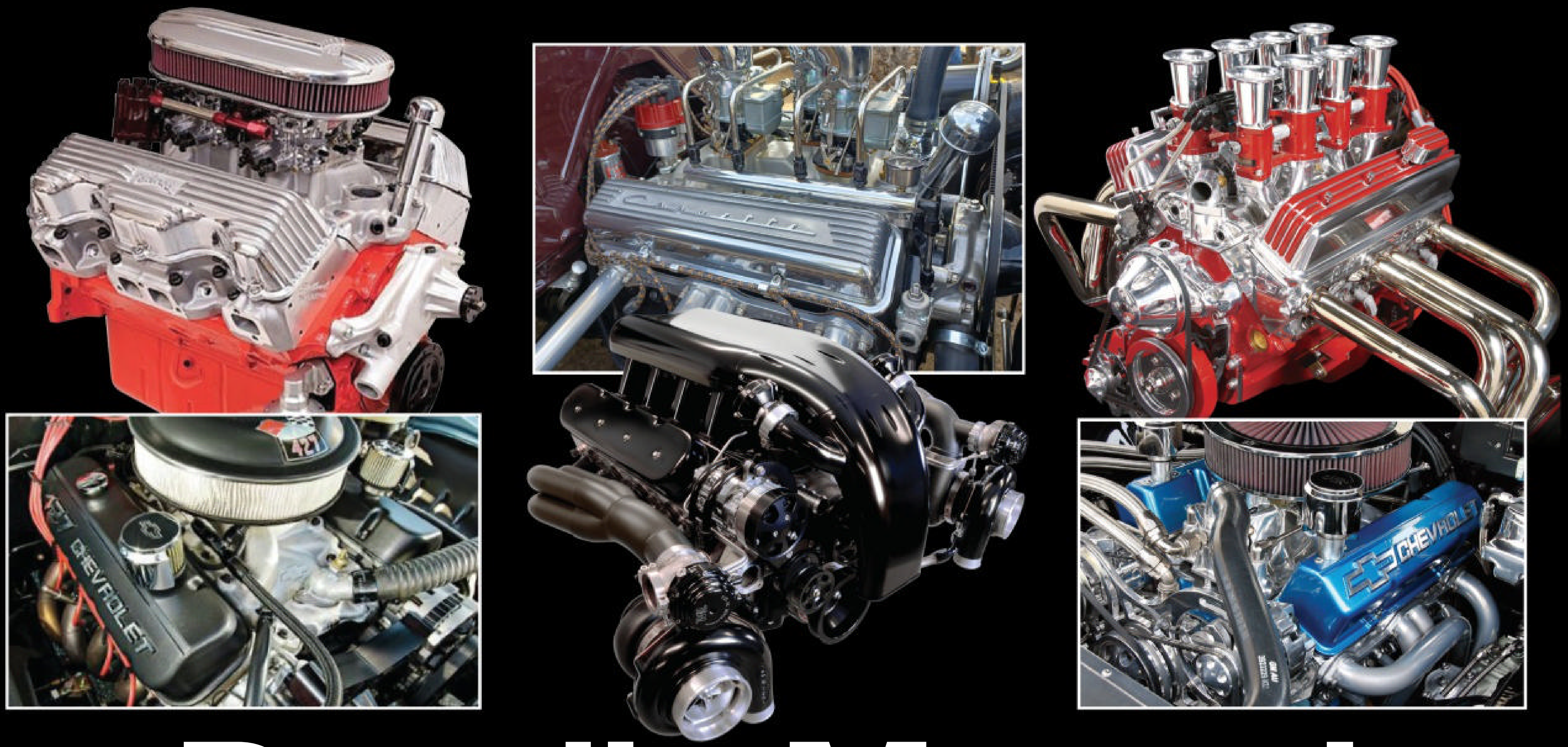
Exterior

BODYWORK AND PAINT: Relic Restomods (Richmond, IL)
PAINT: PPG Nardo Gray by Mitch at Relic
GRAPHICS: Bones Custom (West Palm Beach, FL)
ALL FABRICATION: Miranda Built
HOOD: Cowl custom inserts by Miranda Built
GRILLE: Factory
FRONT BUMPER: Factory tucked and shaved by Miranda Built
REAR BUMPER: Factory custom fabrication by Miranda Built
GLASS: Flush fit
HEADLIGHTS: JW Speaker LED
TAILLIGHTS: Billet Specialties

MICHELIN
Pilot Sport Cup 2

Ted tells us the most memorable experience was seeing the car in person for the first time at the 2018 Goodguys show in Columbus. “The car was still in bare metal as it was on the way to Illinois for paint.” Ted fondly recalls, “Seeing all the photos of the build process was just not the same as finally seeing it as a complete car in person. It was a memorable moment, for sure.

“It was amazing how easy Jeremy and Tim were to work with and how well they communicated with me throughout the build,” Ted states. “He and the talented crew at Miranda Built far exceeded my expectations and built a Camaro like no other. Not only does it look amazing, there’s nothing more exciting than strapping in and firing this thing up. It’s downright intoxicating.”



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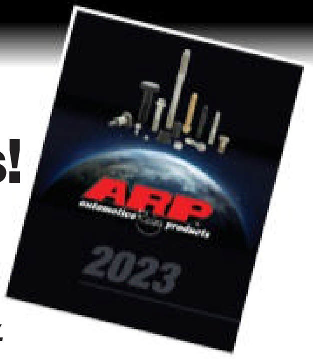

BOMB DEFUSAL

1.

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1. Shown is a Holley Ultra Lo-Ram Intake manifold lid (PN 300-605BK), burst plate duct (PN 300-608BK), and an SFI burst panel (PN ALL26310), which was purchased separately from Summit Racing.

HOW TO INSTALL AN SFI BURST PANEL

BY **EVAN PERKINS** PHOTOGRAPHY BY **THE AUTHOR**

No one looks forward to an engine backfire. They damage parts, singe eyebrows, or—worse–can send hoods and intake manifolds skyward in a crinkled mess. However, in the racing world there exists a clean and clever solution. It's called a burst panel and it prevents your expensive intake manifold from ballooning like a tin can with a firecracker inside.

Burst panels are designed as sacrificial components that fail in the event of a backfire and direct that dangerous explosive force harmlessly away from the vehicle. The basic burst panel consists of a machined flange on the top of the intake manifold with a thin, replaceable metal cover. That cover positively seals against the intake manifold during normal operation but, should a major backfire occur, gives way to safely relieve excess pressure.

In this article we'll detail how to install a burst plate with a Holley front-feed intake manifold lid as our test subject.

SOURCES

HOLLEY
(866) 464-6553
holley.com

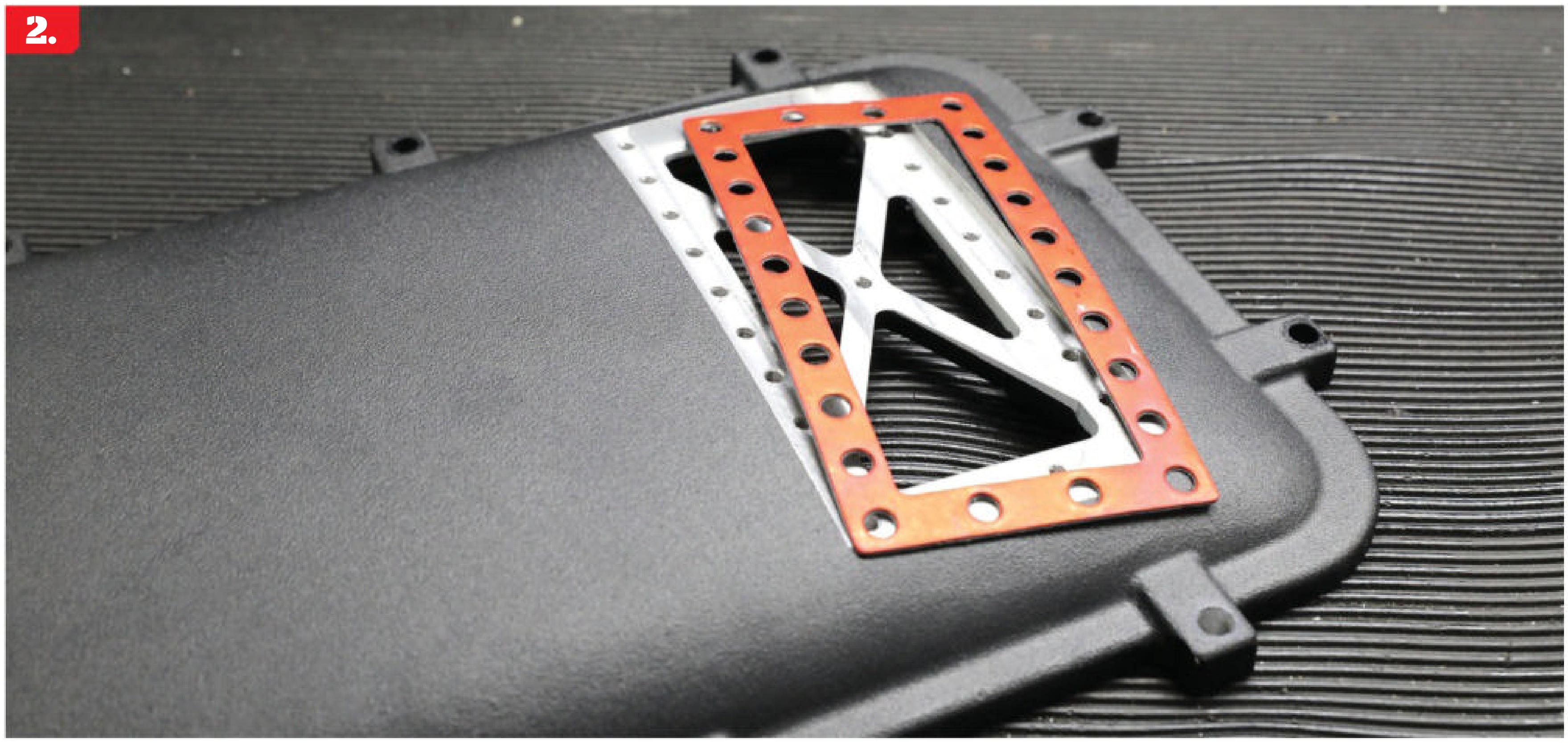
SUMMIT RACING
(800) 230-3030
summitracing.com

WESTECH PERFORMANCE
(951) 685-4767
westechperformance.com

2. A burst panel can be installed with a gasket *(shown)* or with a flange sealant. In this installation we used Loctite flange sealant.

3-4. Note the stud in the middle of the burst panel flange. This is to prevent the burst panel from sucking in during intense engine vacuum, such as letting off the throttle at high rpm. Install a screw and washer stack just tall enough to barely kiss the back of the panel without lifting it off the mounting flange.

2.



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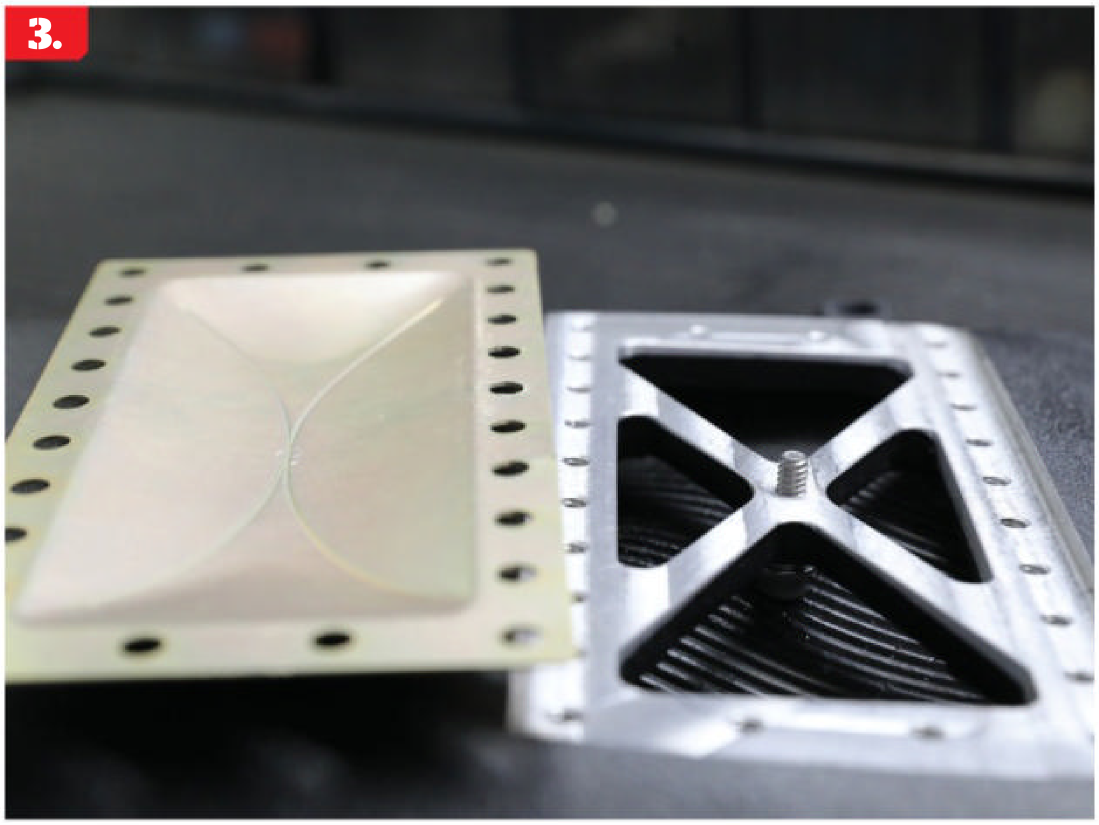

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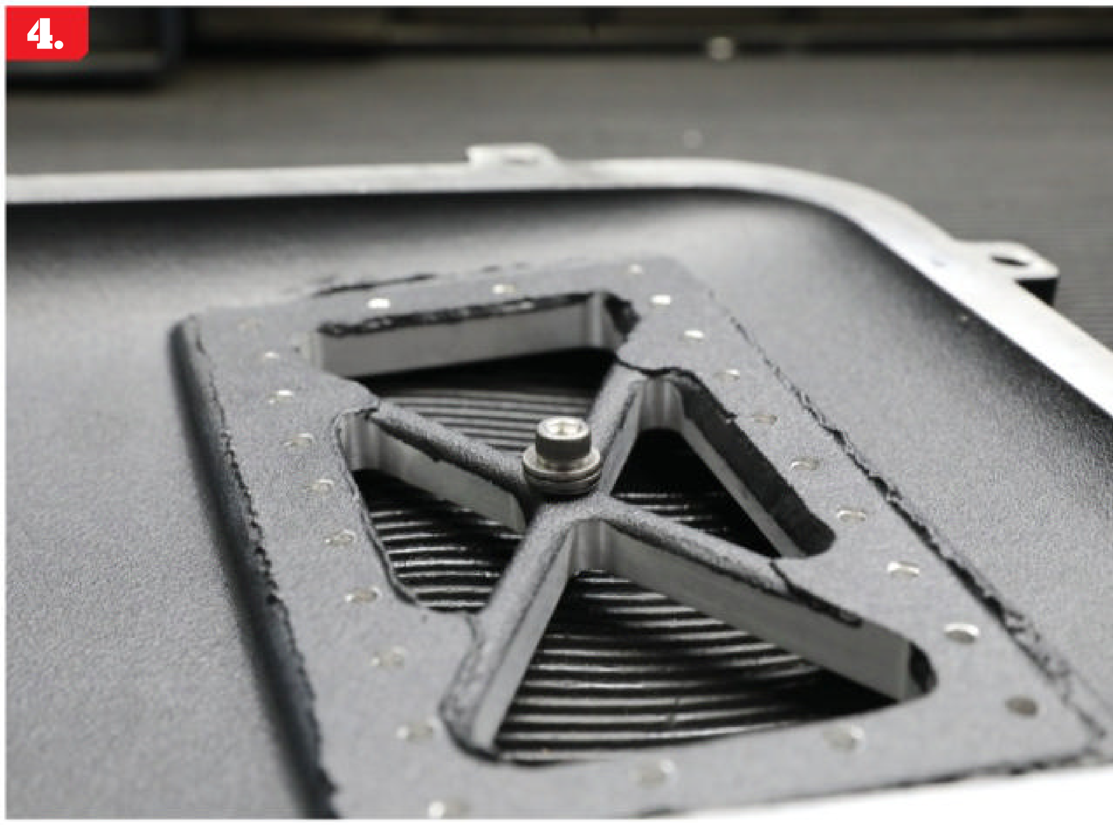

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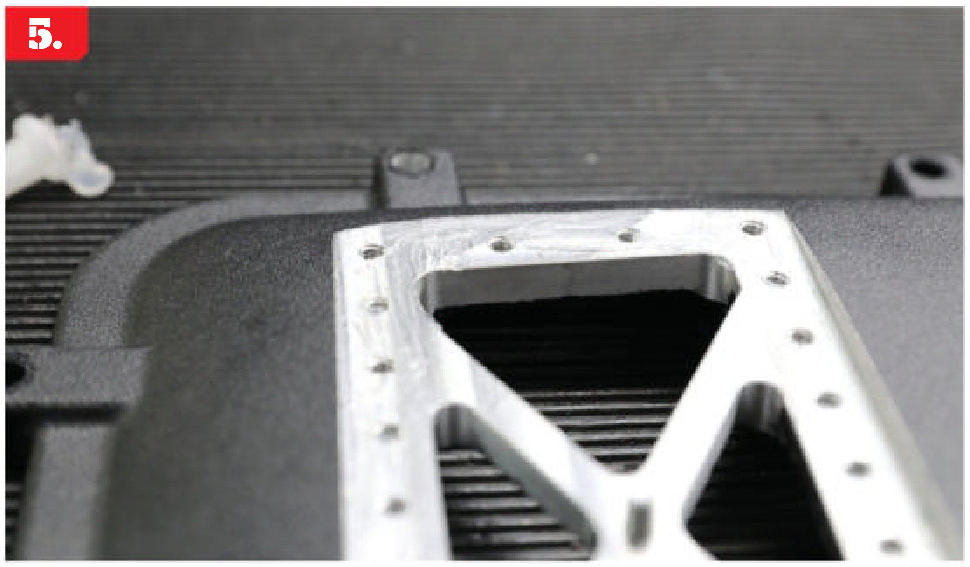

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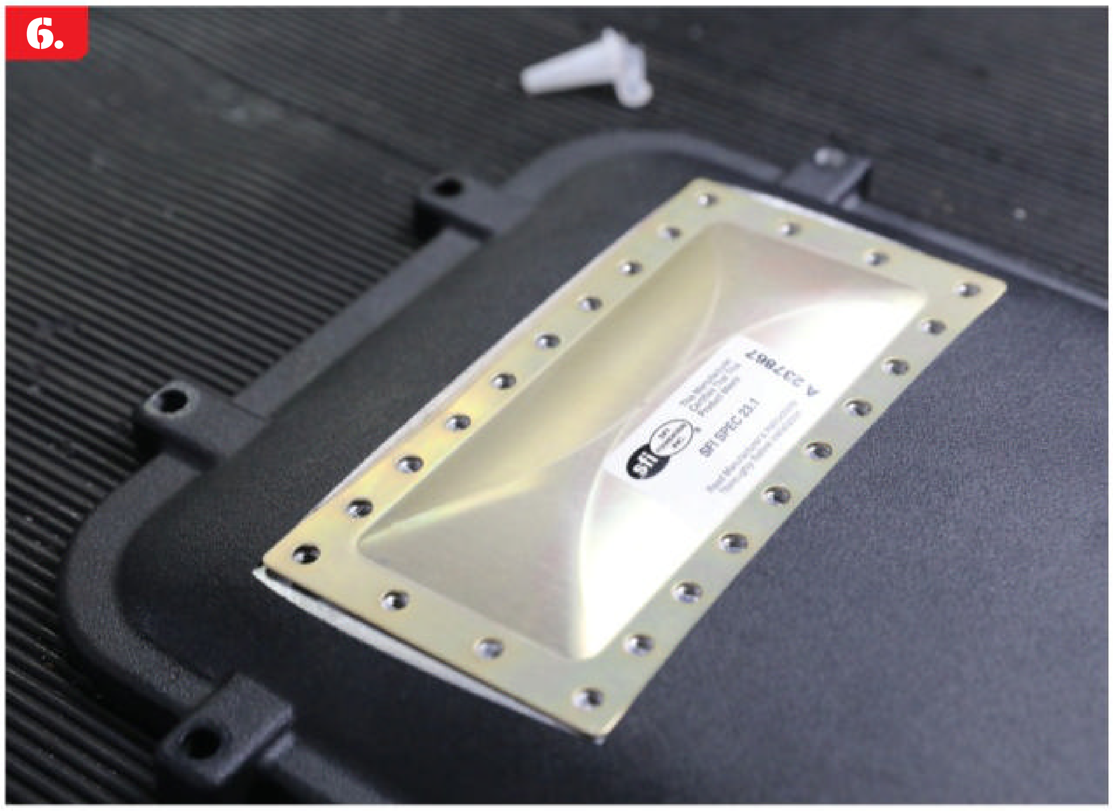

5. Apply flange sealant across the entire mating surface of the burst panel flange.

6. Install the burst panel onto the recessed area of the intake manifold, make sure it fits properly and all the fastener holes line up. The material is intentionally very thin so there are quite a few fasteners.

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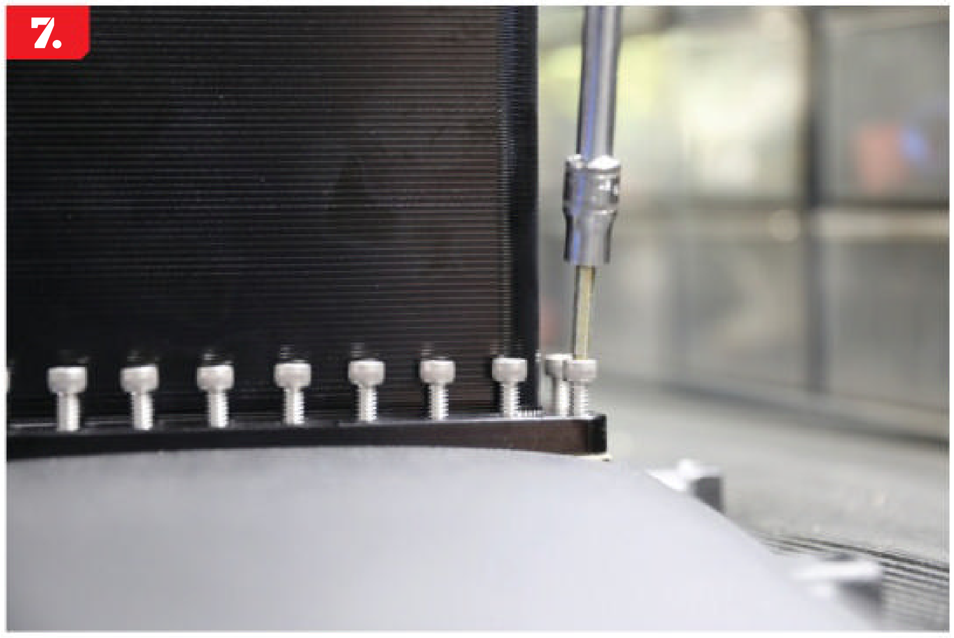

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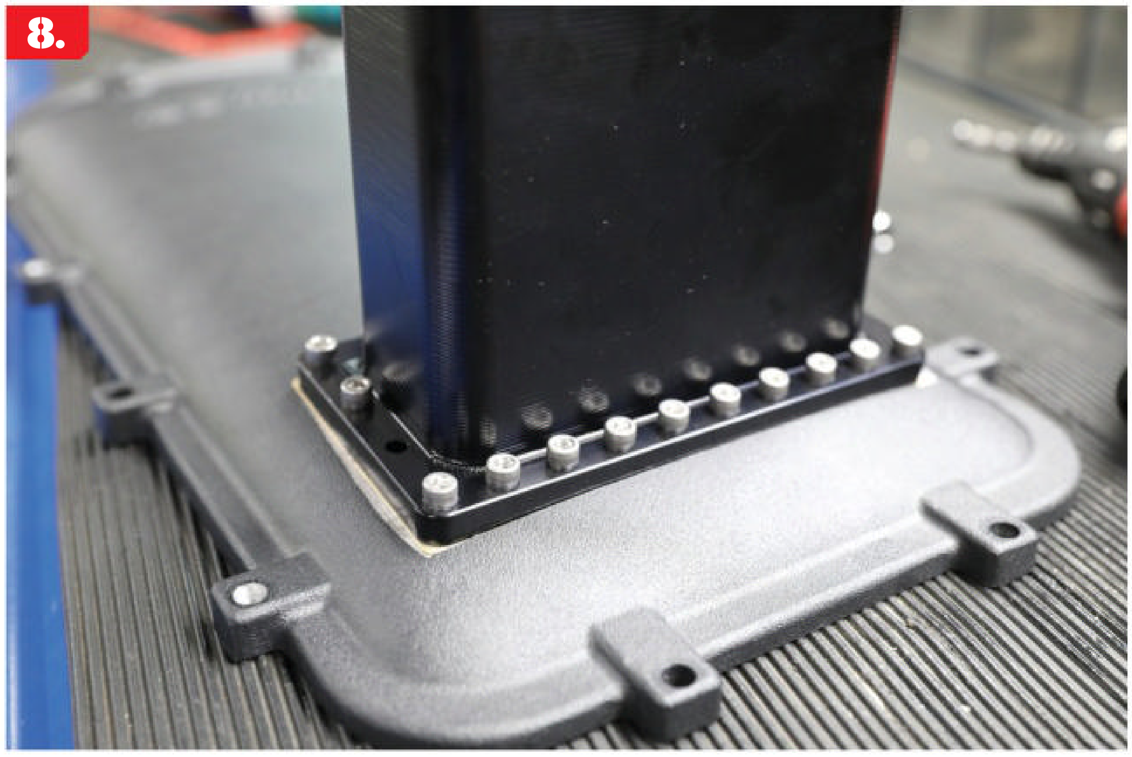

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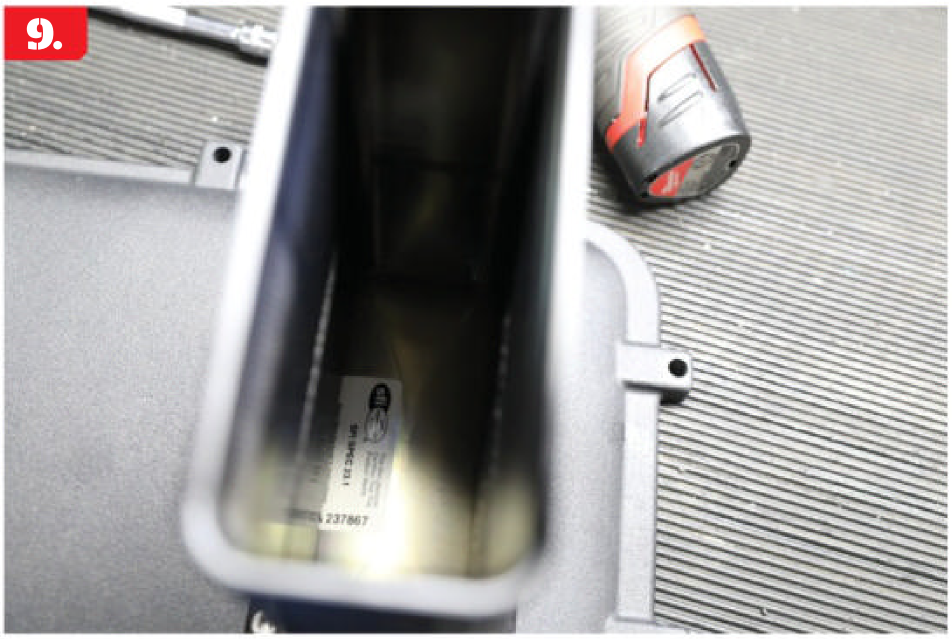
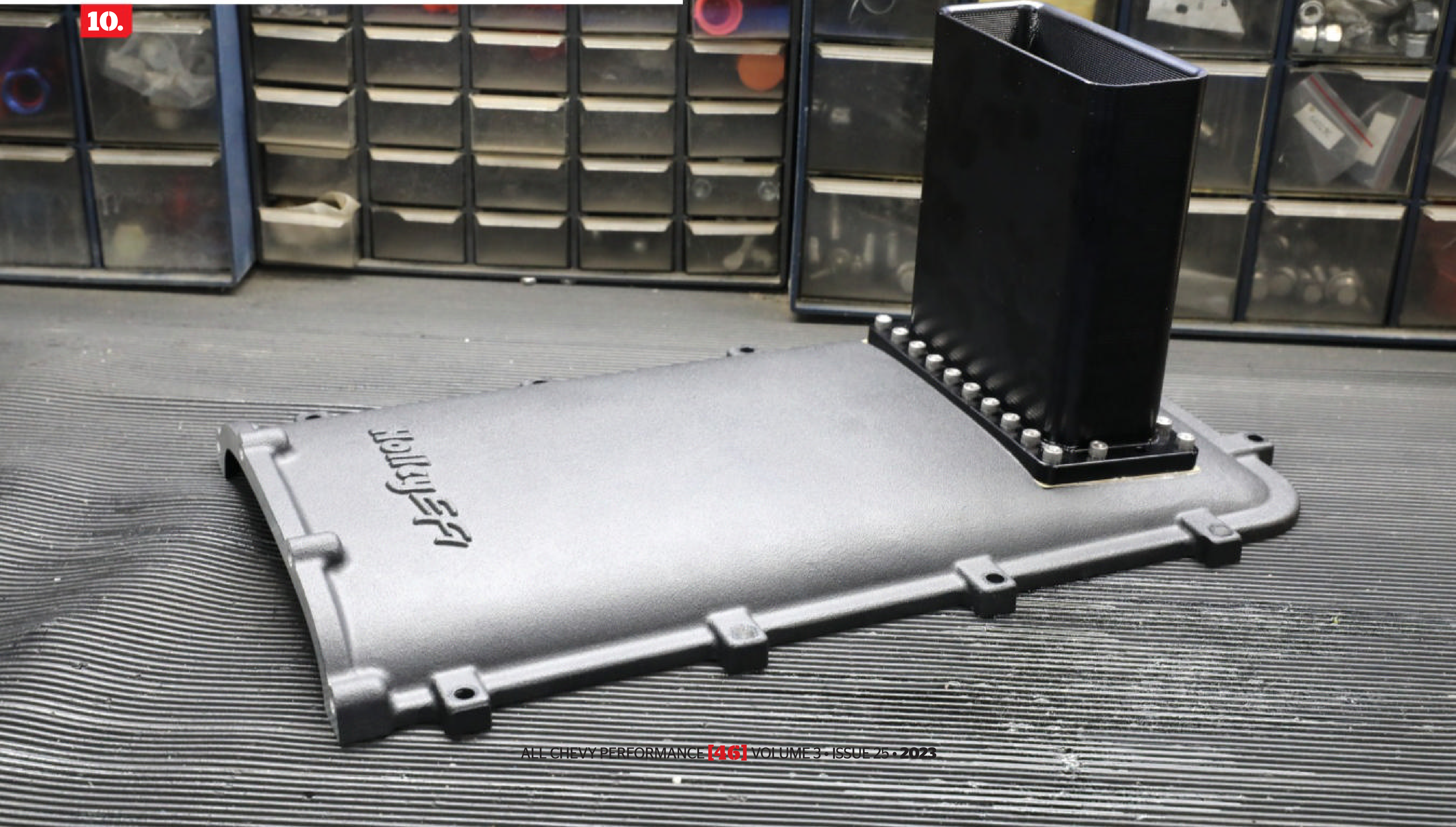


7-8. Tighten the fasteners, equally alternating sides. We used a dab of blue Loctite on each to make sure they wouldn't back out under operation.

9. Some engines, especially those with exposed intakes may run the burst panel with just a cover. However, if a racer is trying to duct any potential backfires past the hood, a vent such as this will help accomplish the goal.

10. The SFI burst panel is now safely sandwiched between the vent and the intake manifold, and the completed lid is ready to be installed on a Holley Lo-Ram intake. The burst panel is prepared for the worst, but let's hope it never needs to do its job.

10.



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RECONNAISSANCE MISSION

GROUND-UP RESTORED '66 NOVA SS

CHEVY II
SS
THE Heartbeat OF AMERICA
YESTERDAY'S NOVA

BY **NICK LICATA** PHOTOGRAPHY BY **JASON MATTHEW**

Vintage muscle cars tend to go through a lot—a lot of changes, and in many cases, a lot of owners. This immaculate '66 Nova SS was purchased by Eddy Zuchowski who bought it from Scott Jones who bought it from Midwest Muscle Cars in Jonesville, Michigan, that bought it from retired Alabama NASCAR driver Hut Stricklin Jr. This lengthy transfer of power started in 2015, and those are just the ownership changes that we know of, but there were likely others between 1966 and 2015 as well. For our purposes, we'll focus on the car's latest incarnation, which was started by Scott Jones back in 2018 and completed sometime in 2020.

Scott did some reconnaissance research on the VIN and cowl tags prior to purchasing the car and found it to be a true 118 SS 327/275hp, four-speed car with the rare W/A paint code (Chateau Slate/Tuxedo Black–painted top). His research also revealed this color combination was discontinued before the production year ended. Scott always liked vintage Novas, and the rarity of this one enticed him to pull the trigger and take it home.

"I purchased the car and drove it for about a year, but it wasn't much fun. The suspension and brakes weren't great, and to be honest the engine didn't run well either. So, I went all in and did a complete restoration from the ground up," Scott states. "After having it sandblasted the car appeared to be in pretty good shape, so we kept all the original sheetmetal except for the driver side doorskin and the quarter-panels, which we replaced with N.O.S. sheetmetal. While in there, we grafted in a set of Detroit Speed mini-tubs to accommodate the big tires and wheels I'd be running."

Scott's idea was to bring the car back to its original look with modern driveline and chassis components. He proceeded with the aforementioned Chateau Slate and Tuxedo Black roof, which carries onto the cowl hood. JT's Custom Paint Garage in Moravia, New York, took care of bodywork business prior to Jason Baran laying down a decadent layer of paint and mile-deep clear. JT's also filled the area above the trunk for a cleaner look.

Keeping with the factory motif, all the trim, bumpers, and sideview mirrors are rechromed stock pieces. The only hint of modern modifications are the LED taillights.

In the power department, Scott admits he'd have gone with an LS if given the chance for a do-over, but he was enticed to keep the car on the somewhat original side, at least in appearance. Besides, the small-block fell into his comfort zone and at the time he wasn't poised to build a tire-shredder—just a "daily" with a little attitude and a cool stance.

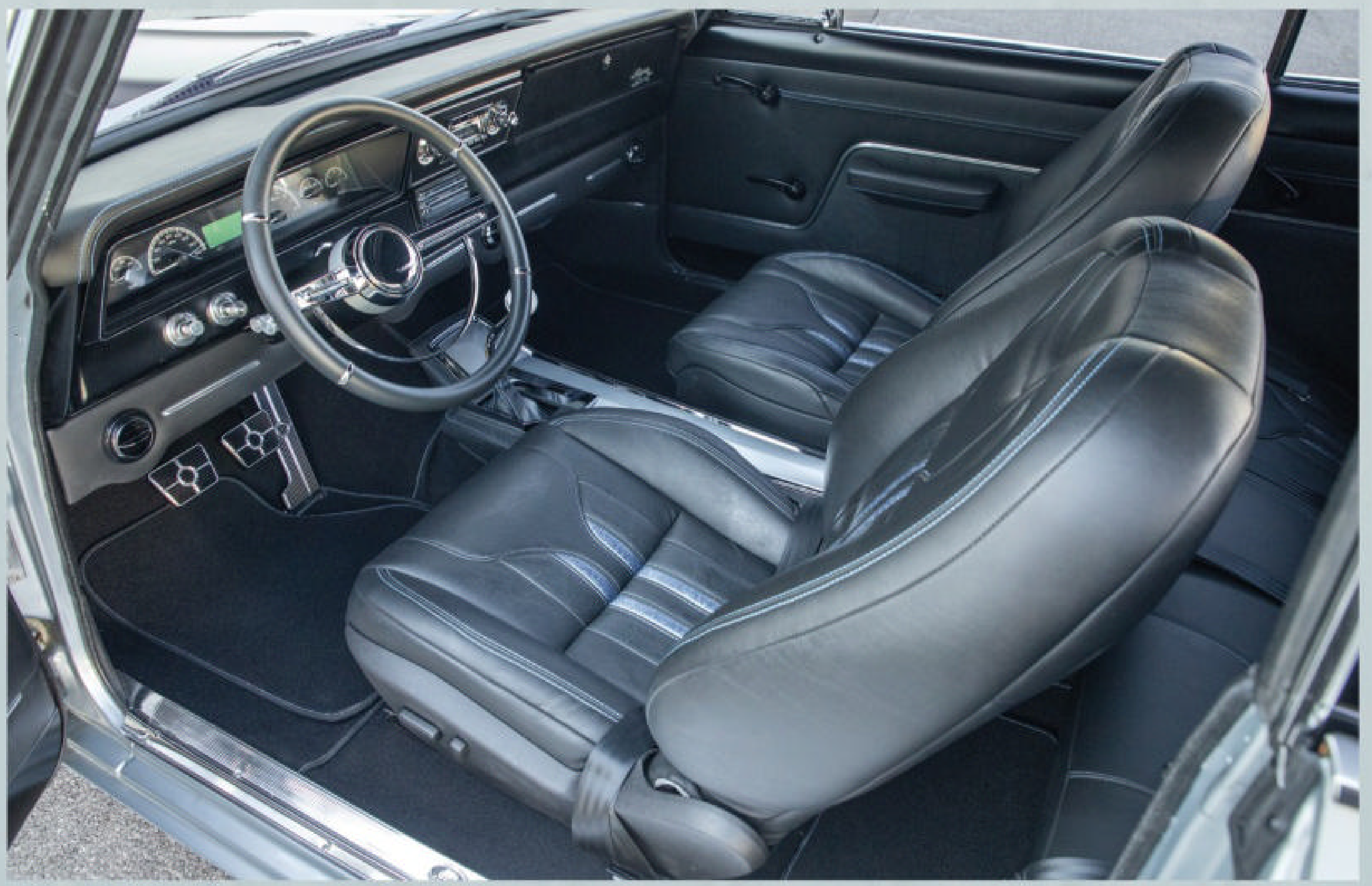
Engine details were sparce, but we do know it's basically a stock 336ci piece from 1966. Doug Holmes out of Auburn, New York, bored it 0.060 over and slapped on a set of Dart aluminum heads and a Dart dual-plane intake. He dressed it up with valve covers and air cleaner from Billet Specialties along with an aftermarket accessory drive system. The rumble comes by way of Church Boys headers and exhaust system.

CHEVY II
SS

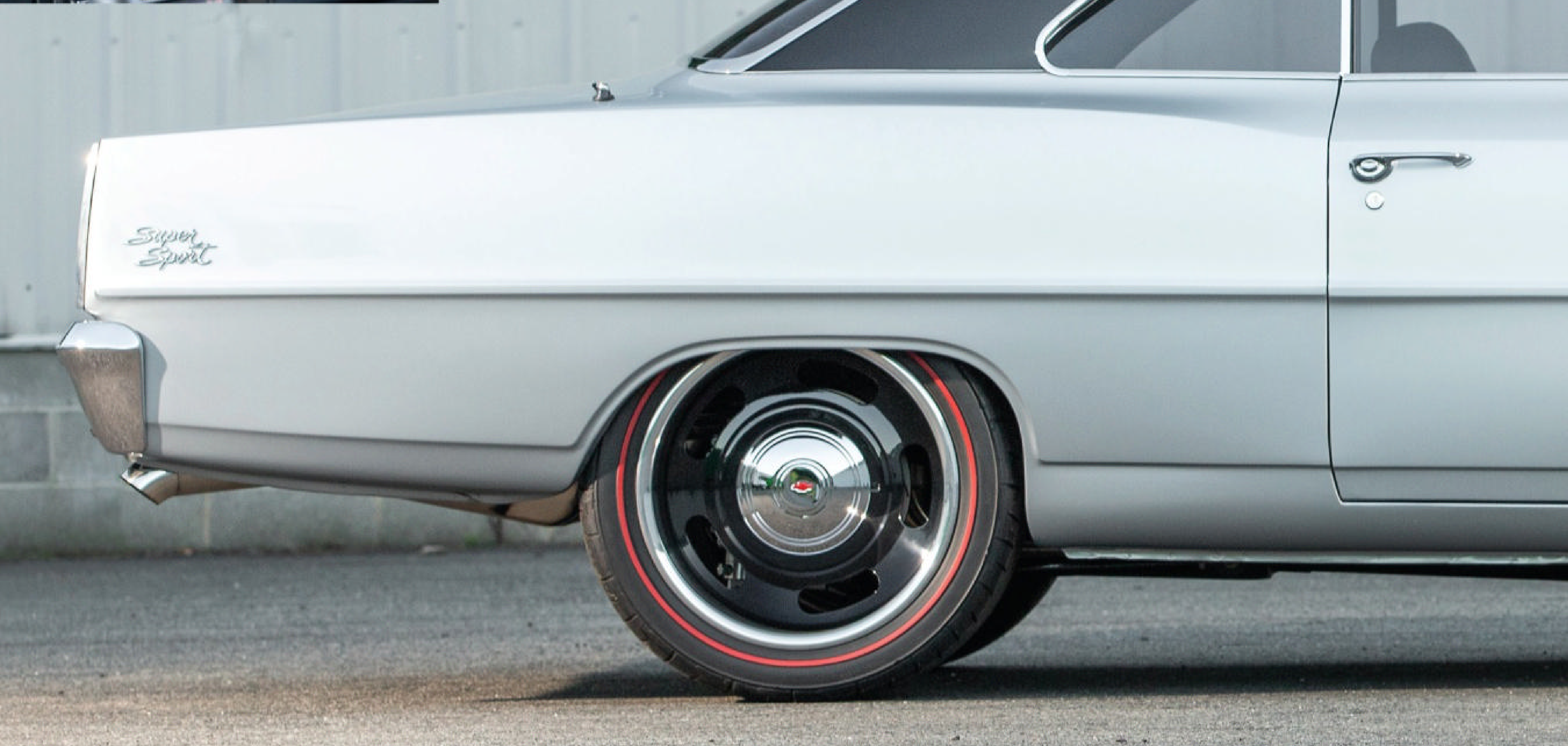
Video

wilwood

Super Sport
SS
New Jersey
60026QQ
HISTORIC



HURST


Super Sport

The car rolls on a stock chassis with a Church Boys rack-and-pinion steering system up front dampened by double-adjustable Viking shocks. Out back is a Church Boys Racing Tri-4-Link with Viking shocks as well. A 12-bolt rearend houses a limited-slip posi and 3.31 gears and Moser 31-spline axles are at the ready should the day come when some hefty LS horsepower is applied.

Wilwood binders take care of stopping chores—six-piston calipers up front and four-pistons out back, all on 12-inch rotors. The Wilwood master cylinder proportion valve provides unwavering pedal performance.

The American Racing VN506 wheels give the car a sleeper look but coming in at 18 inches they pitch a more updated approach. The redline Diamond Back tires adhere to the vintage vibe while incorporating a modern edge with 225/40R18 tires up front and 295/40R18 rubber out back. It's a sleek look that requires a second take to realize this Nova is quite a bit more than a stocker.

The interior is a performance interpretation designed with comfort in mind, as John Bates of JMB Upholstery put together an inviting ensemble of Daytona weave black carpet merged with black synthetic leather accented by blue stitching on the custom door panels, dashpad, and the '02 Camaro bucket seats.

The Dakota Digital gauges add state-of-the-art technology to the stock dash and factory-appearing Custom Autosound head unit, which is wired up to a quad assembly of Blam Audio speakers. The ididit steering column and CON2R steering wheel continue the contemporary flavor while not overshadowing the Nova's classic artistry. A Vintage Air A/C system fights the heat during those sweltering East Coast summer days.

Scott put all his heart into the Nova and was able to finish it before health issues forced him to sell the car. He refused to let it go to just anyone with a fat wallet. While showing the car at the 2021 Syracuse Nationals, it was chosen as one of the "Designers' Dozen." That got the attention of Eddy Zuchowski who expressed interested in buying the car. A lengthy discussion with Eddy convinced Scott that he was "the right person to take care of my car."

TECH ✓

OWNER: Edward Zuchowski, Pompton Plains, New Jersey
VEHICLE: ’66 Chevy Nova SS

Engine

TYPE: ’66 Chevy small-block
DISPLACEMENT: 336 ci
CYLINDER HEADS: Dart aluminum
ROTATING ASSEMBLY: Scat Crank, SRP flat-top pistons
INDUCTION: Dart dual-plane intake, Holley 650-cfm carburetor, K&N element
ASSEMBLY: Doug Holmes, Finger Lakes Auto and Machine (Auburn, NY)
EXHAUST: Church Boys Racing headers, Church Boys 3-inch custom exhaust with dual-chambered turbo mufflers
ANCILLARIES: Billet Specialties valve covers, Billet Specialties oval air cleaner, aftermarket front drive system, Painless wiring

Drivetrain

TRANSMISSION: Muncie M22
CLUTCH: McLeod RXT Street Twin-disc
REAR AXLE: GM 12-bolt, 3.71 gears, Moser axles

Chassis

FRONT SUSPENSION: Church Boys Racing tubular upper and lower control arms, Viking double-adjustable shocks
STEERING: Church Boys rack-and-pinion
REAR SUSPENSION: Church Boys Racing Tri-4-Link, Viking double-adjustable shocks
BRAKES: Wilwood 12-inch rotors, six-piston calipers front; 12-inch rotors, four-piston calipers rear; Wilwood manual master cylinder and proportion valve

Wheels & Tires

WHEELS: American Racing Rally (18x8 front, 18x10 rear)
TIRES: Diamond Back 275/35R18 front, 295/30R18 rear

Interior

UPHOLSTERY: Daytona Weave black carpet, black with blue stitching synthetic leather door panels, dashpad, and seat covers
INSTALLATION: John Bates at JMB Upholstery (Canandaigua, NY)
DOOR PANELS: Custom by JMB
SEATS: ’02 Camaro
STEERING: Ididt steering column, CON2R steering wheel
SHIFTER: Hurst
DASH: Stock
INSTRUMENTATION: Dakota Digital
STEREO: Custom Autosound head unit, Blam Audio Relax speakers, Blam amplifier
SOUND SYSTEM INSTALL: Tim Radcliffe
HVAC: Vintage Air
PEDALS: Billet Specialties
DOOR HANDLES: Billet Specialties

Exterior

BODYWORK AND PAINT: Jason T. Baran at JT’s Custom Paint Garage (Moravia, NY)
PAINT: PPG Chateau Slate/Tuxedo Black
HOOD: 1-inch cowl
MINI-TUBS: Detroit Speed
TAILLIGHTS: Stock with LED

Scott built the car as a driver designed to soak up vast amounts of road miles, and since Eddy has taken ownership he’s complied with Scott’s wishes and drives the car to cruises and shows every chance he gets. “Scott said he’d sell me the car under the stipulation that I had to drive it as much as possible or there would be no deal,” Eddy states. “I’m honoring my end of the bargain and enjoying every mile.”

CHEVY II
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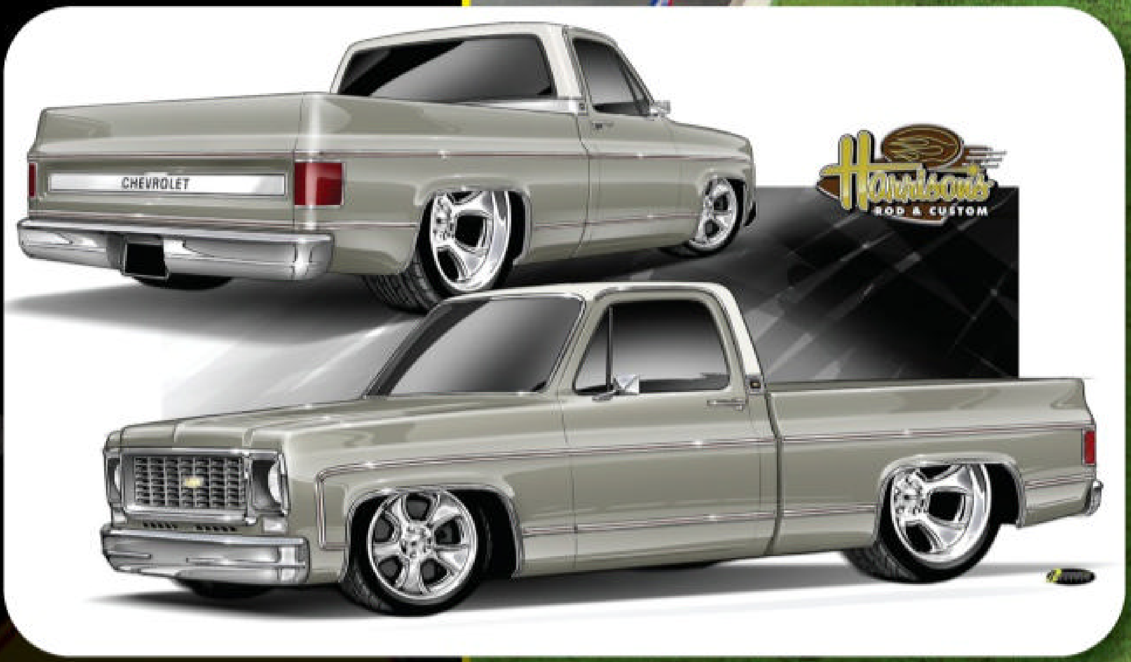

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DRAGSTRIP SHOCK TUNING

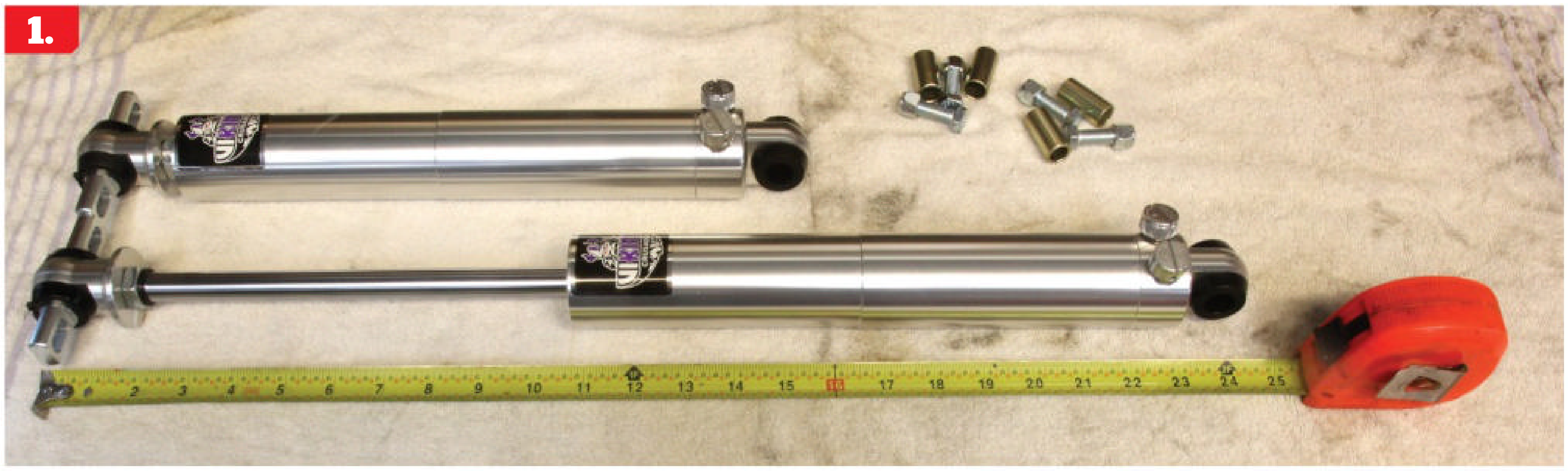
NOTES FOR SHOCK SETTINGS IN DRAG RACING APPLICATIONS

BY **JEFF SMITH** PHOTOGRAPHY BY **THE AUTHOR**

At some point trips to the dragstrip become more about improving the car's 60-foot and overall elapsed time and less about going heads-up against that guy in the other lane. You also begin to notice that the fast cars all leave the starting line hard yet straight while many squirrelly street cars perform these weird gyrations with the car lifting the left front while the rear squats hard over the tires. Somewhere along this timeline you decide your car's 60-foot times are too slow and you're ready to make some changes.

Drag racing has always been about making more power than the other guy, but it's also about the art of converting that power into traction to go quicker. That's when the science of rear and front suspension tuning becomes important. This story will focus on a common problem that is often overlooked once the car is quicker—we'll draw that line at roughly the low 12s to mid 11-second bracket. Once a car reaches this threshold, applying careful suspension tuning with the right parts can make a big difference.

1.



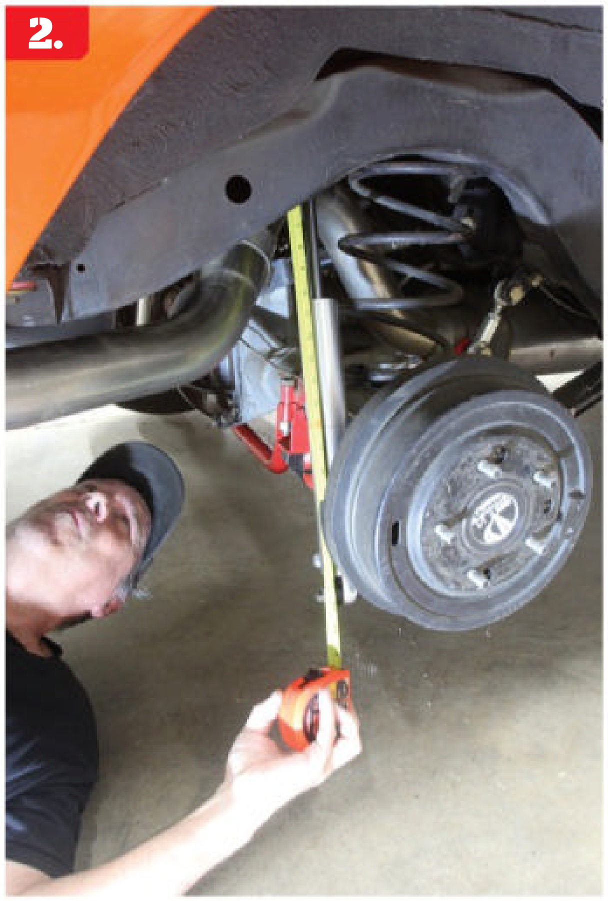
1. Establishing shock length travel is important. These Viking Crusader shocks measure 23¾ inches in full extension and 14¾ inches fully collapsed, for a total shock travel of 9 inches. These shocks were originally intended for use with either a '66 Buick LeSabre or an Olds Starfire (B-body cars). Stock Chevelle rear shocks are roughly 1½ inches shorter.

A recent tech discussion with Viking Shocks co-owner Chris King revealed that a common problem is rear suspension loss of control due to insufficient shock travel. This is most commonly seen in coilover applications but also occurs in stock suspension applications. The scenario plays out something like this: You've just added a looser converter or plumbed a mild nitrous kit that now hits the tires so hard on the starting line that the body squats over the rear suspension and the tires spin. This often creates a situation where body movement fully compresses the rear shocks, creating a solid rear wheel rate that translates into spinning rear tires. We'll first run through some simple measurement techniques that should alert you to the possibility that a shock length and/or a rear spring rate change may be needed.

The first thing to do when looking at improving 60-foot times is to inspect and ensure all the suspension components are in good shape. If there are wiped-out rubber control arm bushings, dead ball joints, leaking shock absorbers, or bent control arms, these issues must be addressed first. Insufficient rear shock travel can also prevent creating a decent baseline. Establishing a repeatable baseline from which to start tuning is an essential first step.

For this story, we will be using an early Chevelle rear suspension with factory separate shocks and coil springs, but this approach will work just as easily for a coilover conversion.

2.



Before we get into the measurement phase, it's best to record all this information with the exact configuration it will run on the starting line. This means the car should be set up with the usual amount of fuel in the tank, the equivalent driver weight in the seat, and with the normal tire pressure in the front and rear tires. This level of detail will produce much more accurate results.

2. Here is the Viking Crusader rear shock at full extension on our Chevelle. At ride height, this longer shock allows 5½ inches of rebound travel, which is more than enough to prevent topping out the shock.

The first step is to establish rear ride height. In our case, we measured the distance from the axle centerline to the horizontal fender lip but you could also use the distance from the fender lip to the ground. Once this position is recorded for both sides, measure the length of both shocks at ride height and record that measurement.

Next, measure the length of the shaft extending from the top of the shock body to the upper mounting position. Also, with the car at ride height, measure the height of the compressed rear springs on both sides and then remove the spring and measure the free length of the spring. Finally, remove the shock and measure the shock length in both full extension and full compression and record all these numbers.

3. If the spring is installed with a very low ride height and minimal travel in compression, this can allow the shock to potentially bottom out, which can damage the shock and hurt the launch. This can be improved with a stiffer spring and/or by adjusting the coilover spring position. These are Aldan coilovers in a different early Chevelle.

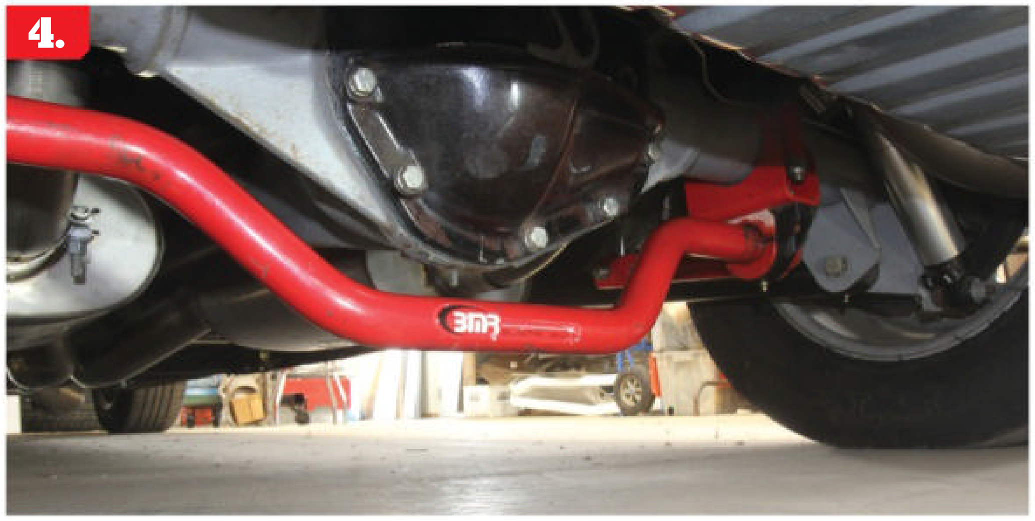
3.

A reasonable initial setting should produce 20 to 25 percent of load on the spring at ride height. As an example, if our Chevelle weighs 3,400 pounds and we have 42 percent of the total weight supported by the rear springs, that would put the rear weight at 1,428 pounds with that split evenly at 714 pounds per side. In order to place the load on the springs at roughly 25 percent of its maximum we might start with a spring rate of roughly 175 pounds per inch.

You will get an idea of your relative spring rate by comparing the free height of the spring with how much the rear springs compress at ride height. If the rear springs compress barely 10 percent this indicates a stiff spring (assuming freedom of movement). If the spring compresses to 50 percent or more of its free length, then the spring rate is likely too soft. One advantage to coilover shock applications is that there are many more spring rates available and the rate is often marked on the spring.

One goal of this effort is to achieve roughly 25 percent of spring compression at ride height along with a minimum of 2.25 to 2.5 inches of shock movement in both compression and rebound (extension). This means having a minimum preferable overall travel of 5 inches.

4. This large antiroll bar is strapped directly to the Strange S60 rear axle and bolts to the body at the rear crossmember. This large bar minimizes severe left front-end rise on 11-second and quicker cars with stock suspensions.

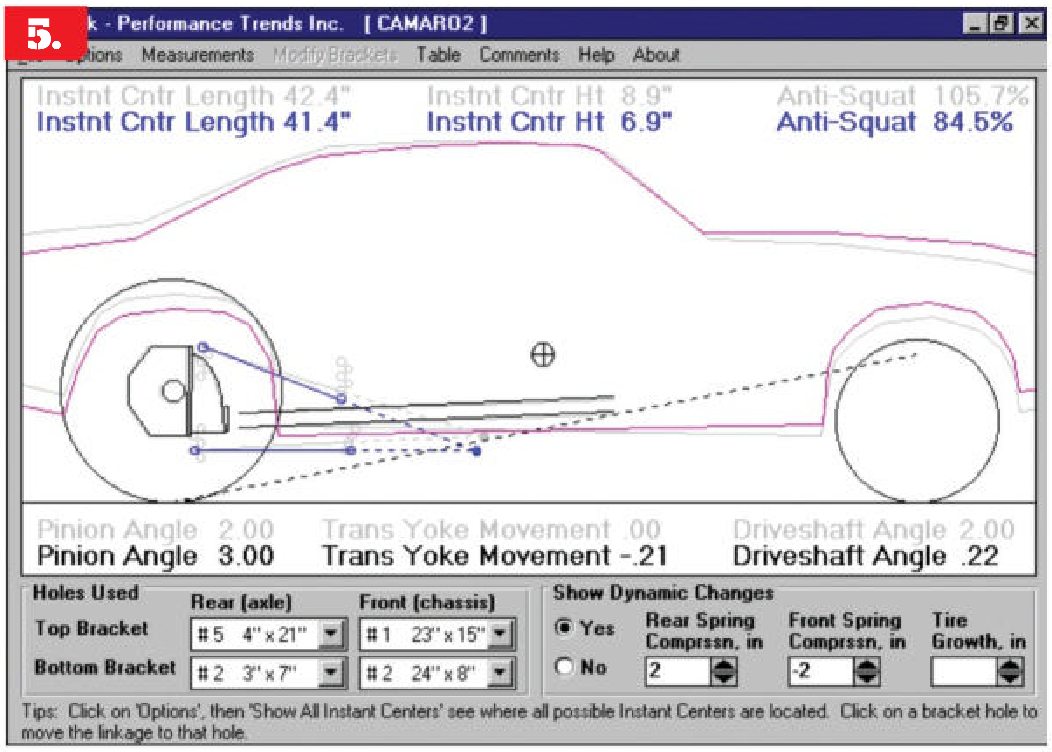


Before we get into the subject of the vehicle's instant center (IC), it's important to touch on the possibility of suspension bind with a bad shock absorber. This emphasis on a free moving front and rear suspension includes stock-type rubber suspension bushings that, by design, do not allow free movement of the suspension. This is where converting to better rear suspension bushings can really help. On our Chevelle, we've converted to tubular upper and lower control arms using a combination of spherical bearings—aluminum and Delrin suspension bushings.

Global West pioneered the use of combining lightweight aluminum suspension bushings with this Delrin material at the wear points. Other suspension companies have followed suit. For our Chevelle, Global combines a steel spherical bearing in the front of the lower control arm with a Delrin rear bushing in the rear to allow complete freedom of movement while positively locating the rear suspension. This advantage is further enhanced with spherical bearings in the upper control arm as well as combined with an adjustable upper arm that offers the ability to easily set the pinion angle. There are several other suspension companies that also offer the combination of aluminum and Delrin bushings.

If you find it necessary to change the rear ride height in order to create the ideal rear spring position, keep in mind this will also affect the IC. The IC is the theoretical intersection of the upper and lower control arms on a typical four-link rear suspension. On a ladder bar car, the IC is the front attachment point of the ladder bar to the chassis. On a leaf spring car, the IC is the leaf spring's front mount position. It would take a separate tech story to explain positioning and tuning of the IC so we'll leave it to the reader to do his own research on that topic.

5. Performance Trends offers software that can simulate the position of the IC. In the illustration, the 45-degree dotted line is what is called the 100 percent antisquat line. The IC is the imaginary intersection of the extended lines from the upper and lower control arms as indicated by the blue dot. Under acceleration the software indicates that the IC moves slightly lower to under the 100 percent antisquat line to the 84.5 percent position. The large black crosshair symbol represents the car's center of gravity.



Instnt Cntr Length 42.4"
Instnt Cntr Length 41.4"
Instnt Cntr Ht 8.9"
Instnt Cntr Ht 6.9"
Anti-Squat 105.7%
Anti-Squat 84.5%

Pinion Angle 2.00
Pinion Angle 3.00
Trans Yoke Movement .00
Trans Yoke Movement -.21
Driveshaft Angle 2.00
Driveshaft Angle .22

Holes Used	Rear (axle)	Front (chassis)
Top Bracket	#5 4"x21"	#1 23"x15"
Bottom Bracket	#2 3"x7"	#2 24"x8"

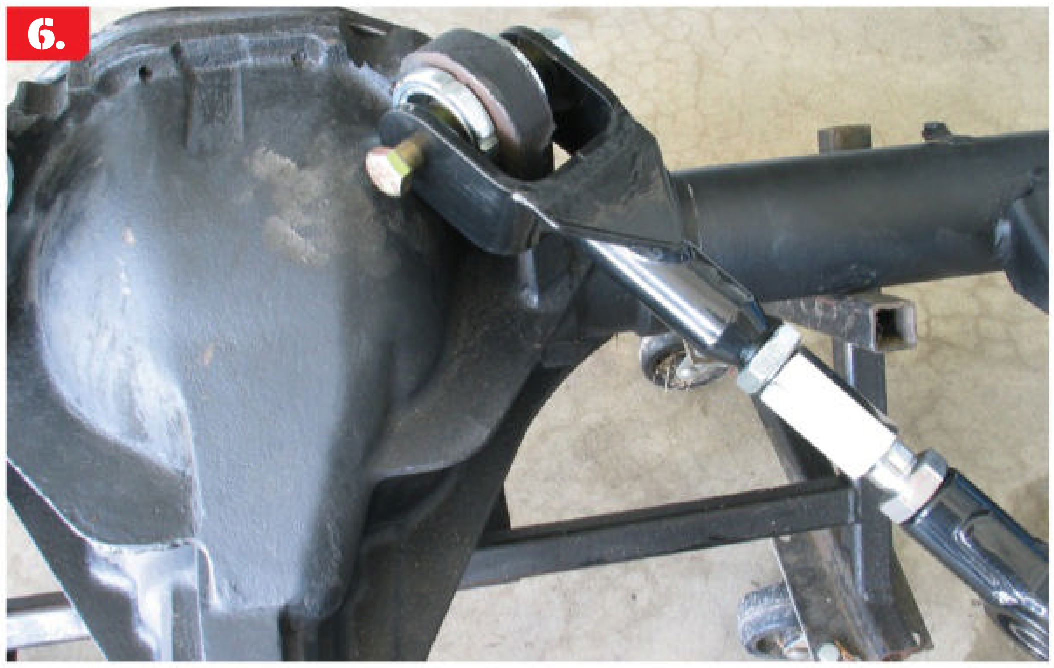
Show Dynamic Changes
● Yes
○ No
Rear Spring Compressn, in: 2
Front Spring Compressn, in: -2
Tire Growth, in:

Tips: Click on 'Options', then 'Show All Instant Centers' see where all possible Instant Centers are located. Click on a bracket hole to move the linkage to that hole.

The ideal position of the IC is to create a rear suspension that initially extends or pushes the rear axle downward to plant the tire. If the car squats (where the body pushes down over the rear tire), this effectively is lifting the rear tire off the track surface, which reduces traction. Ideally, we want the body at the rear to either be level or slightly lift on the launch.

From a simplistic standpoint, the greater the distance the IC is forward of the rear axle centerline, the greater the leverage applied to the rear suspension. So, if the body squats on acceleration, this generally indicates the IC is too far forward. Raising the rear ride height will tend to shorten the IC horizontal distance while lowering the ride height will do the exact opposite and lengthen the IC position. The vertical position of the IC is also important but, again, beyond this story to get into the specifics.

6. Several companies offer upper and lower control arms featuring spherical bearings or aluminum bushing with Delrin inserts that allow the suspension to articulate more freely compared to stock rubber bushings. These upper control arms are also adjustable in length to allow custom setting the pinion angle.



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5th Gen Camaro FEAD

Based off the Gen. 5 Camaro SS LS3 FEAD. This universal LS Swap kit is designed for racing and high horsepower custom street applications and includes the potent V-7 YSi head unit, mounting brackets, and drive options include 10-Rib serpentine or 50mm cog drive. *Due to the universal nature of this system, compressor bypass, air discharge, air inlet, and charge cooling components are not included. Other parts and engine calibration are required.

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It's also important to emphasize that the IC is not locked in a fixed position as the car accelerates. When the rear suspension moves on launch this changes the angle or pitch of both the upper and lower control arms. This will reposition the IC and therefore affect how the car responds. In addition, under load it is not unusual for the axle to rotate (lifting the right rear tire as viewed from behind the car), which will compress the right (passenger) side shock by ½ inch or more. One way to maintain a relatively even axle position is to use a large, rear antiroll bar. This is an important addition for cars running 11s and quicker.

7. These are Viking Crusader double-adjustable controls. The C knob adjusts compression valving while the R knob is for rebound adjustments. Tuning often requires adjustments in independent changes in stiffness, which is the primary advantage of double-adjustable shocks.

7.

– C +
VIKING
R +
VIKING

Once you have created a solid baseline position for the rear shocks and ride height, the next process is to begin tuning the shocks to optimize the launch. The best approach is to use double-adjustable shocks so that the compression and rebound settings can be optimized independently. Compression movement is when the shock is shortened while rebound is the opposite or extension of the shock.

Our specific application '66 Chevelle uses a Strange S60 rear axle housing with stock locations for the springs and shocks with tubular upper and lower control arms. If you discover, as we did, that the stock length rear shocks were too short to allow for adequate suspension travel, we consulted with Viking and they recommended a '66 B-body Buick shock that would bolt right up to our existing Chevelle mounting points yet offer a 1½-inch increase in suspension travel.

Assuming that the car extends the shock at the launch, extension valving is the adjustment that will affect the rate that the tire is planted. If the suspension is changed to move the IC then shock tuning will need to be reevaluated. Most shock absorber companies design their valving so that turning the adjustment knob clockwise will stiffen the valving while counterclockwise movement loosens or softens the setting. Most often the settings are recorded from zero or full soft so that a 10-click position means 10 clockwise clicks stiffer from full soft.

8. In the case of our '66 Chevelle, the original rear shocks were too short and could potentially top out during the launch, so we opted for a longer pair of shocks. In our application Viking recommended a longer Buick/Olds B-body shock that offers additional length for compression and extension movement while retaining the same Chevelle mounting fixtures.

8.

The companies will also offer suggestions for a starting point for double-adjustable shocks on the front and rear. QA1 features 18-click individual adjustment ranges for both the compression and rebound. They suggest 0 to 6 clicks for compression and 4 to 10 clicks for rebound for a baseline setting for the rear shocks.

Shock Length Measurements

Ride height measured from the fender lip to the axle centerline—12 inches.

Description	Right (inches)	Left (inches)
Shock length, fully compressed	14.75	14.75
Shock length, fully extended	23.75	23.75
Shock length at ride height	18.5	18.5
Extension movement at ride height	5.50	5.50
Compression movement at ride height	3.50	3.50
Rear spring height at ride height	9.5	9.5
Rear spring free height	15	15

This combination of ride height and shock selections offers 5.50 inches of extension and 3.50 inches of compression movement, which is 1½ inches greater than a stock application. A shock with less travel may cause traction problems or suspension damage.

Viking Warrior Double-Adjustable Drag Race Initial Shock Settings

Front	>900 hp	<600 hp	600-900 hp
Compression	12-18	12-18	12-18
Rebound	0-4	0-6	2-8
Rear	>900 hp	<600 hp	600-900 hp
Compression	0-4	2-6	2-6
Rebound	4-10	6-12	12-18

Viking recommends using high-rebound force Crusader rear shocks for any vehicle with more than 750 hp, especially in small tire or drag radial applications.

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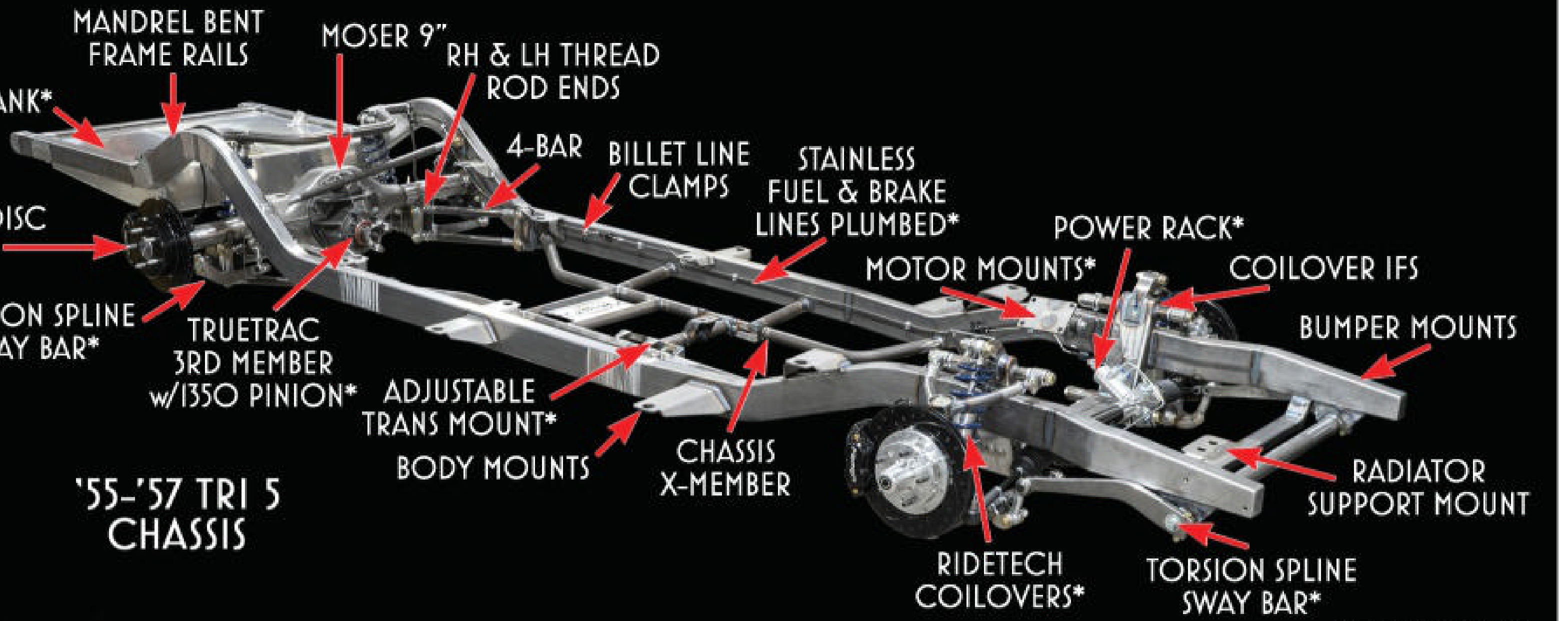
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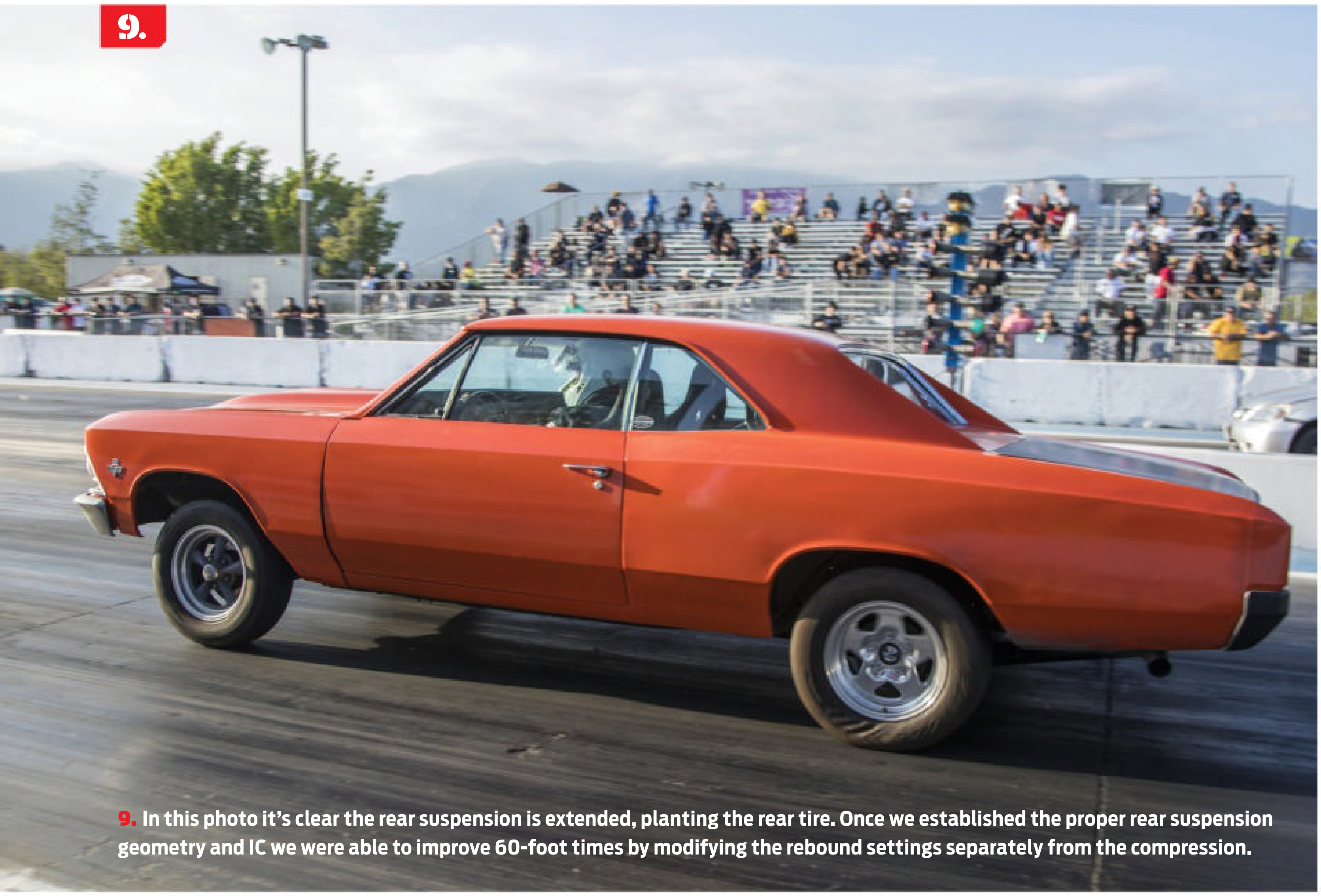

9. In this photo it's clear the rear suspension is extended, planting the rear tire. Once we established the proper rear suspension geometry and IC we were able to improve 60-foot times by modifying the rebound settings separately from the compression.

SOURCES

ALDAN AMERICAN
(310) 834-7478
aldanamerican.com

GLOBAL WEST SUSPENSION
(909) 890-0759
globalwest.net

JRI SHOCKS
(704) 660-8346
jrishocks.com

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10.

10. With tubular upper control arms, we can change the effective length of the rubber snubber with the threaded adjustment to set the best limit for frontend travel. A longer snubber reduces the frontend suspension travel.

Viking's shock recommendations are first based on the amount of power the engine is making in three tiers from under 600 to over 900 hp. The starting point for our car began with valving for slightly less than 600 hp. For the Viking Crusader double-adjustable shocks with AJ valving, the initial recommendations are compression of 10-14 clicks and 2-6 on rebound, assuming the suspension extends or rises on initial acceleration.

However, if the car tends to squat slightly on the launch, the initial settings would be different with 4 clicks on compression and 12 clicks on rebound. These starting points are based on charts supplied with the Viking Crusader shocks with AJ valving. There are also three other valve combinations that use different settings because the force valving is different.

Tuning from these starting points on the rear shocks can begin with stiffer rebound tuning to evaluate how the car reacts. As tempting as it is to add several changes at once, perform only one change of perhaps two clicks for each attempt. This is time-consuming and you have to keep track of conditions at the same time for the car's essential records. A cold track will react differently than a hot, greasy track.

Tuning efforts should be focused on improving 60-foot times and making the car easier to drive. This story concentrates mainly on the rear suspension but the rate of frontend movement is also important. Slower cars tend to employ a fast-rising front suspension with very soft rebound settings but as the 60-foot times become quicker, the car will demand stiffer rebound settings to slow the rate of weight transfer.

One excellent way to evaluate the rear suspension is to video the car leaving and then play it back frame by frame to evaluate how the rear suspension moves and in which direction. Most stock suspensions will squat on launch, especially over the right rear. This often occurs because of excessive left frontend rise. One approach is to tie down the left front in order to better evaluate what the rear is doing. Stiff rebound adjustments on the left front will help.

There are dozens more variables that we don't have the space to itemize here, especially in regard to IC tuning. The main goal here is to emphasize proper rear suspension design combined with sufficient shock length to prevent the shock from either bottoming or topping out, which can disrupt traction and make it difficult to diagnose. With a proper shock length and intelligent tuning, you can bet that quicker 60-foot times are achievable.

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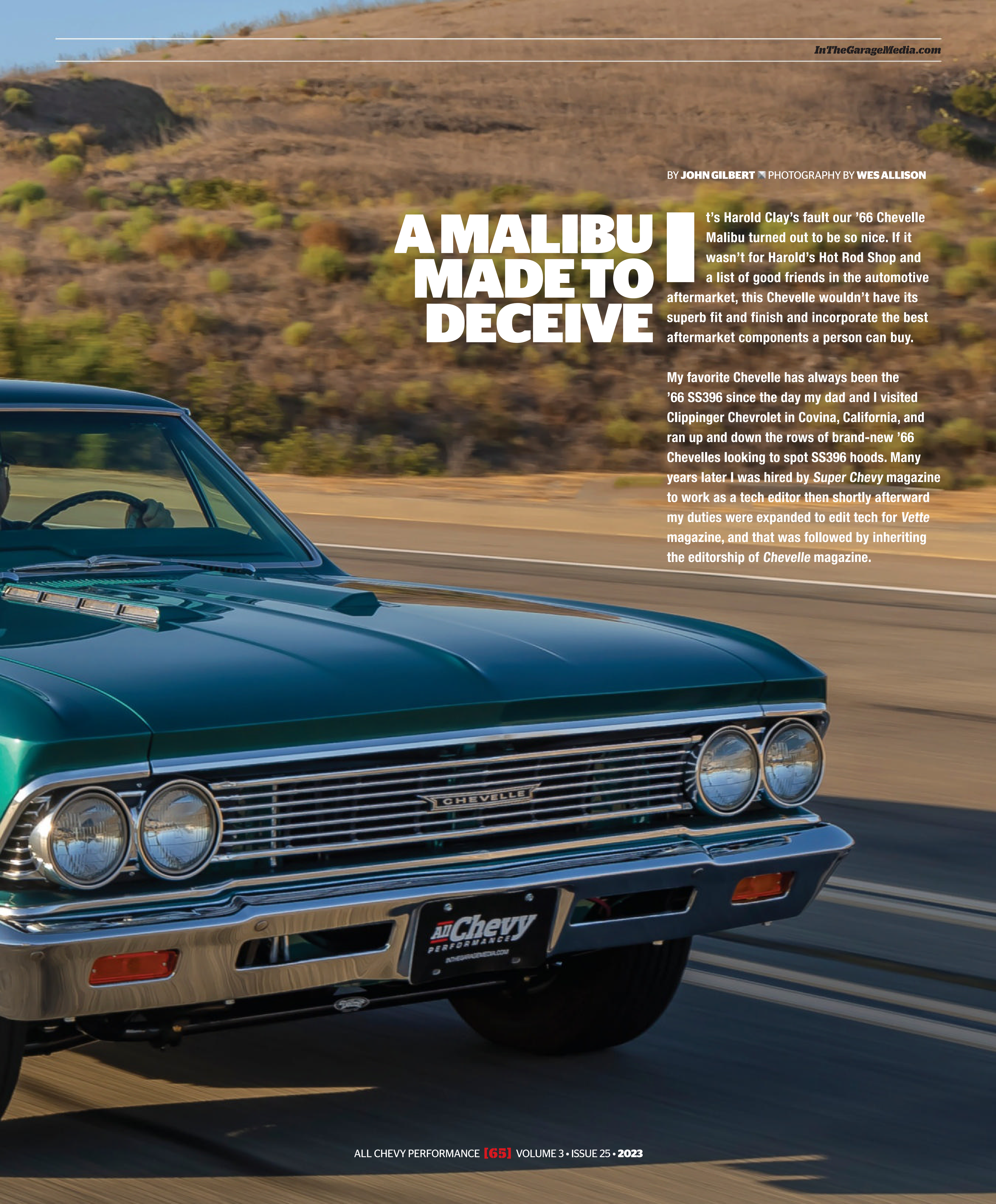


BY **JOHN GILBERT** PHOTOGRAPHY BY **WES ALLISON**

A MALIBU MADE TO DECEIVE

It's Harold Clay's fault our '66 Chevelle Malibu turned out to be so nice. If it wasn't for Harold's Hot Rod Shop and a list of good friends in the automotive aftermarket, this Chevelle wouldn't have its superb fit and finish and incorporate the best aftermarket components a person can buy.

My favorite Chevelle has always been the '66 SS396 since the day my dad and I visited Clippinger Chevrolet in Covina, California, and ran up and down the rows of brand-new '66 Chevelles looking to spot SS396 hoods. Many years later I was hired by *Super Chevy* magazine to work as a tech editor then shortly afterward my duties were expanded to edit tech for *Vette* magazine, and that was followed by inheriting the editorship of *Chevelle* magazine.

When I joined *Vette*, I scraped together enough money to buy an old Z51 Corvette as my daily driver, so when the editorship of *Chevelle* came along I was broke. I told my CPA buddy Brian Shaw how I really wasn't looking forward to having *Chevelle* magazine readers ask what year my Chevelle was and then have to explain I'd never owned a Chevelle—that's not counting numerous '66 Malibus my circle track crazy friends and I cut up to race at Speedway 605 in Irwindale, California, on Saturday nights.

Shaw said he'd put up the money and we could partner to build a '66 Chevelle I could use to generate tech articles for *Chevelle* magazine. The first tech article for *Chevelle* was how to find and buy the right Chevelle. We found a '66 Malibu for $9,000 a lady in Bishop, California, ordered brand new with a Power Pack 283 and three-speed overdrive. Going in we agreed our Malibu was going to incorporate modern improvements; options unheard of in 1966 yet project a deceptive factory-original appearance.

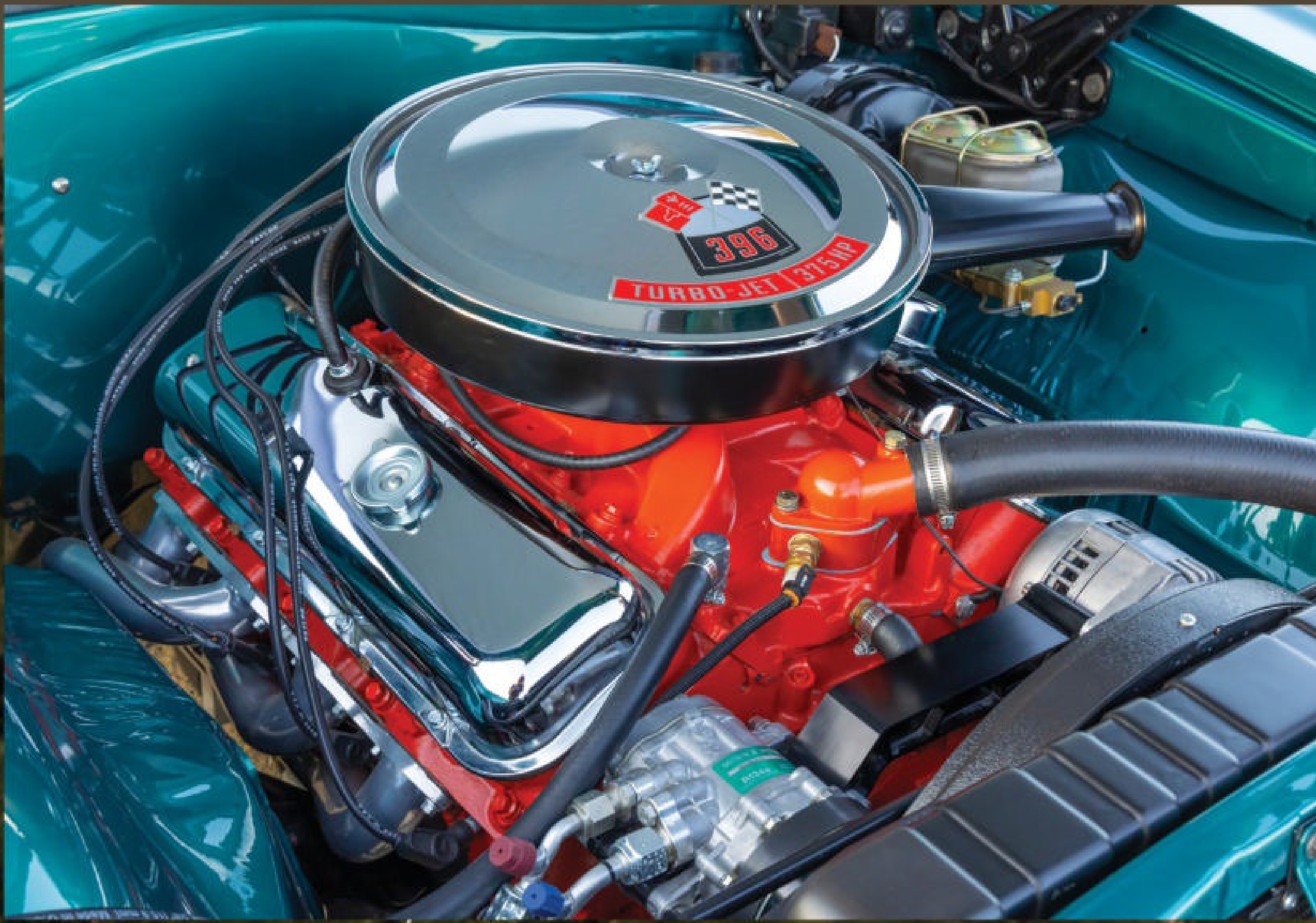
Here is where the snowball started rolling. I was on the phone talking with my friend Harold Clay, owner of Harold's Hot Rod Shop in Enid, Oklahoma, and he said, "bring me the Chevelle, I'll throw a quick paintjob on it." There's no such thing as a quick paintjob for Harold, most of the cars in Harold's shop are classics selected to compete at Pebble Beach or hot rods headed to the Grand National Roadster Show (GNRS).

The next thing we knew Clay had the Chevelle off its chassis and on a rotisserie installing a new AMD trunk floor. Nostalgia dictated choosing an AMD SS396 hood and before long Randy Nunley's Carter Paint Company was dropping off PPG DTM primer and gallons of Tropic Turquoise. Clay tweaked the PPG Tropic Turquoise formula with a little pearl and buried it under PPG clear.

As if it wasn't enough, Harold's Hot Rod Shop delivered show-quality fit and finish. When we arrived in Enid with a truck and trailer the Chevelle was a completely restored car with AMD glass and Steele Rubber weatherstripping—just sans running gear, suspension, brakes, and interior.

I said to Shaw, "Man, [Clay] set the bar way too high, now the car is too nice for us to work on, we're going to need professional help." Our buddy Jason Baucher, a former Snap-on dealer, let us use his facilities at Specialty Stainless Installations, and prior to opening his new shop, Jay's Place Rod & Restore, Jay Ligtenberg swung by Baucher's shop with Shaw helping as an extra pair of hands. Shaw and Ligtenberg installed Detroit Speed Suspension, Baer brakes, Currie 9 crate rearend, and dropped in the ZZ454 complete with a Silver Sport TREMEC six-speed.

The COVID-19 pandemic lockdown ramped up as the Chevelle was going together; some manufacturers were weeks out of inventory with no projected delivery date in sight. That put us on life support with Summit Racing Equipment and not once did Summit's stockpiles let us down, getting large and small parts to us as fast Shaw could order them.


396
TURBO-JET 375HP

Malibu

Constructing the Malibu to deceptively resemble a stock ’66 SS396 was an intentional act. Max Gilmore at Auto Addiction OC fitted original equipment A/C vents and painted the non-air dash Artesian Turquoise. Vintage Air offers a complete approach to air conditioning, so the cooling system features a Vintage Air Monster Fan and Front Runner serpentine engine accessory drive. Vintage Air SureFit air conditioning provides ice-cold air, which is kept in via Dynamat insulation products. The stock-appearance full instrumentation is Classic Instruments’ DirectFit Chevelle package with a built-in tachometer.

Jay’s Place Rod & Restore opened with great success; consequently, Jay was buried with work and could no longer help us so Don Lindfors stepped in with the 2022 GNRS only one month away. Lindfors hustled with incredible finesse and finished the wiring, fired up the FiTech-injected ZZ454 for its first breath, and the Chevelle made it into Harold’s Hot Rod Shop’s GNRS booth in Building 4. At the 2022 GNRS the Chevelle competed as an under-construction project. For GNRS 2023 our ’66 Chevelle will compete as a completed car in Harold’s Building 4 booth.

Recently, Shaw and I reminisced about undertaking our ’66 Chevelle project and we agreed there was not one thing about the car where we compromised or would have done anything different—and completing it to show quality definitely was thanks to a community of great friends.

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TECH ✓

OWNER: John Gilbert & Brian Shaw, SoCal
VEHICLE: ’66 Chevelle Malibu

Engine

ENGINE: Chevrolet Performance ZZ454
DISPLACEMENT: 454 ci
COMPRESSION: 9.6:1
BORE: 4.250
STROKE: 4.000
CYLINDER HEADS: Chevrolet Performance aluminum
ROTATING ASSEMBLY: Stock spec. Chevrolet Performance ZZ454
CAMSHAFT: ZZ454 Hydraulic Roller
FUEL INJECTION: FiTech EFI, FiTech Go Fuel 58034 fuel tank kit
EXHAUST: Sanderson BB7 headers, MagnaFlow stainless 3-inch 15897 Street Series complete system; installation by Jason and Travis Baucher
ANCILLARIES: Vintage Air Front Runner and Monster Fan, American Autowire Classic Update kit
POWDERCOATING: Embee Performance (Santa Ana, CA)
OUTPUT: 469 hp at 5,500 rpm 519 lb-ft at 3,700 rpm

Drivetrain

TRANSMISSION: Silver Sport TREMEC six-speed kit, custom trans tunnel fabricated by Mike Savasta
REAR AXLE: Currie 9-inch Crate limited-slip rearend 3.73:1 gear ratio from Summit Racing

Chassis

CHASSIS: Stock, modified by Harold’s Hot Rod Shop
STEERING: Detroit Speed 600 12.7:1 quick ratio power steering box
FRONT SUSPENSION: Detroit Speed tubular double A-arms, 2-inch drop spindles, BBC coil springs, H-D sway bar, Koni adjustable shocks
REAR SUSPENSION: Detroit Speed 3 Kit, adjustable tubular trailing arms, coil springs, Koni adjustable shocks
BRAKES: Front Baer Classic two-piston 11-inch rotors, Rear Ford Explorer 11-inch discs, Detroit Speed master cylinder/booster

Wheels & Tires

WHEELS: Specialty Wheel 15x7 OEM-style steel wheels
TIRES: Coker BFGoodrich Silvertown P225/70R15 Redline radials
ALIGNMENT: Glenn’s Alignment (Costa Mesa, CA)

Interior

UPHOLSTERY: Full custom interior in OEM Tropic Turquoise sparkle cloth and Artesian Turquoise vinyl by Da Vinci Upholstery
INSTRUMENTATION: Classic Instruments Direct Fit Chevelle package
STEERING: ididit tilt column, OPGI stock ’66 steering wheel
DASH: OPGI recovered by DaVinci Upholstery
HVAC: Vintage Air ’66 Chevelle SureFit

Exterior

BODYWORK AND PAINT: Harold’s Hot Rod Shop (Enid, OK)
PAINT: PPG Tropic Turquoise custom mix by Harold’s Hot Rod Shop
HOOD: ’66 SS396 by Auto Metal Direct (AMD)
GRILLE: Reproduction ’66 Malibu, OPGI (Seal Beach, CA)
BUMPERS: Front AMD, Rear stock re-chromed by Ace Plating (Van Nuys, CA)
SPECIAL THANKS: Harold Clay, Rick Love, John McLeod, Don Lindfors

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A BARRAGE OF BATTERY OPTIONS

CHOOSING THE MOST IMPORTANT PART OF YOUR CHEVY'S CHARGING SYSTEM

BY **RYAN MANSON** PHOTOGRAPHY BY **THE AUTHOR**

Battery maintenance is not often at the top of any classic car enthusiast's to-do list, but if those headlights have started to dim or that starter is beginning to groan, chances are it's time to address that worn-out battery. While not a remarkably romantic aspect of a muscle car build, battery technology has come a long way since that old Camaro rolled off the assembly line, and one of the brands leading the charge in charging technology is Duralast Parts.

Recently, we noticed our project '72 Camaro was beginning to bear that awful groan that typically precedes the much-more-despised "dead starter clunk." A couple hours on a battery charger served as naught, so we set out, turning our attention to DuralastParts.com to research what options were available to replace our tired battery. Turns out, Duralast offers three different battery options that serve the classic car market: Duralast, Duralast Gold, and Duralast Platinum. All Duralast Batteries meet or exceed OE cranking amps and reserve capacity and feature Duralast's proven robust construction and rugged durability.

The two baselines most commonly used for comparing batteries are cold cranking amps (CCA) and reserve capacity. CCA is the amount of amps delivered over 30 seconds at 0 degrees F. This unit determines a battery's ability to start an engine. Reserve capacity refers to the amount of time in minutes that a battery can provide power before being fully discharged. High reserve capacity is important in vehicles equipped with multiple accessories, such as heated seats, power windows, high-end audio equipment, and so on.

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1. For up to 1,000 cold cranking amps (CCA), with a reserve capacity of 120 minutes, the Duralast Gold Batteries are perfect for those original or mildly modified classic Chevy muscle cars. High-compression, big-block–equipped street machines, or those cruisers hauling around extra electronic components can benefit from Duralast's Gold line of batteries. Featuring an additional 100 CCA, Duralast Gold Batteries are guaranteed to meet or exceed the vehicle's original battery specifications.

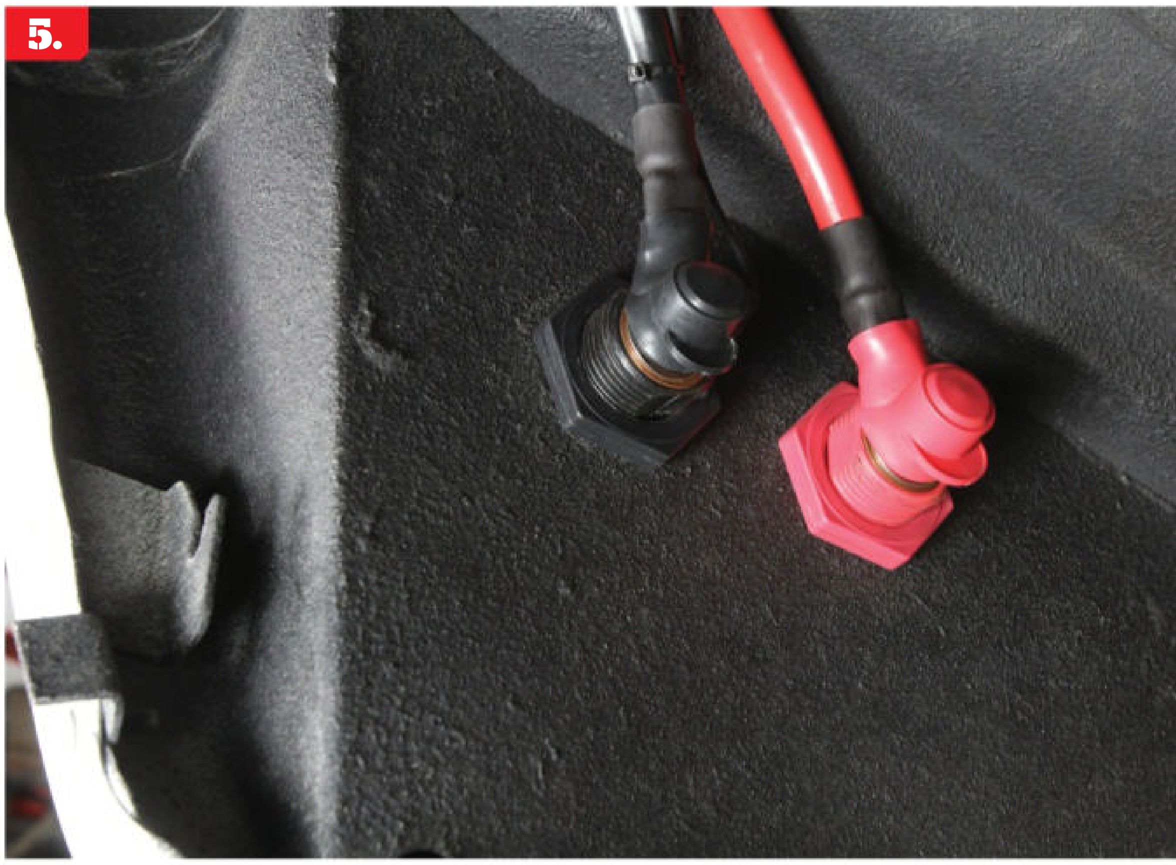
2. Duralast Platinum AGM Batteries feature spill-proof design and an increased CCA rating of 900 and 160 minutes reserve capacity. Where the Platinum line really shines is a life cycle up to twice that of the traditional flooded cell battery capable of more cycles and faster recharge times as well.

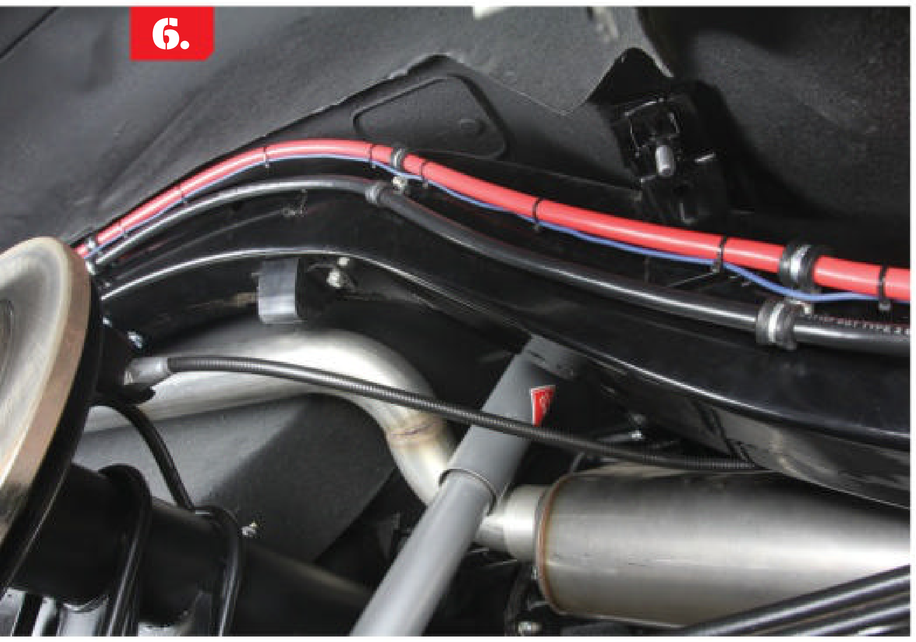
3. If that classic Chevy sees more time inside a garage than out on the road, it's a good idea to grab a Duralast Battery Maintainer while you're out battery shopping. This ensures that classic fires up every time and promotes a longer lifespan for the battery.

4. In addition to a properly sized battery, the correct-gauge battery cables, both positive and negative, are of utmost importance when it comes to premium battery performance. If the battery has been relocated to the trunk of the vehicle, this is even more important and a battery cable of at least 2/0 gauge should be used.

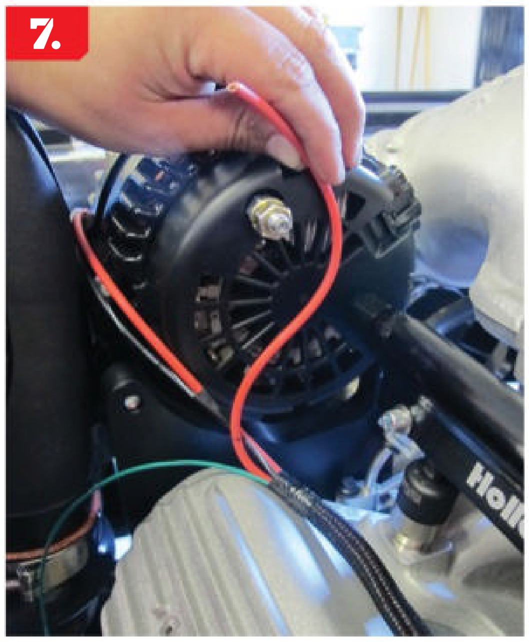
5. Routing battery cables through sheetmetal can be tricky. Thankfully there exists a handful of ways in which to safely pass through a solid, steel plane, such as these bulkhead fittings.

5.

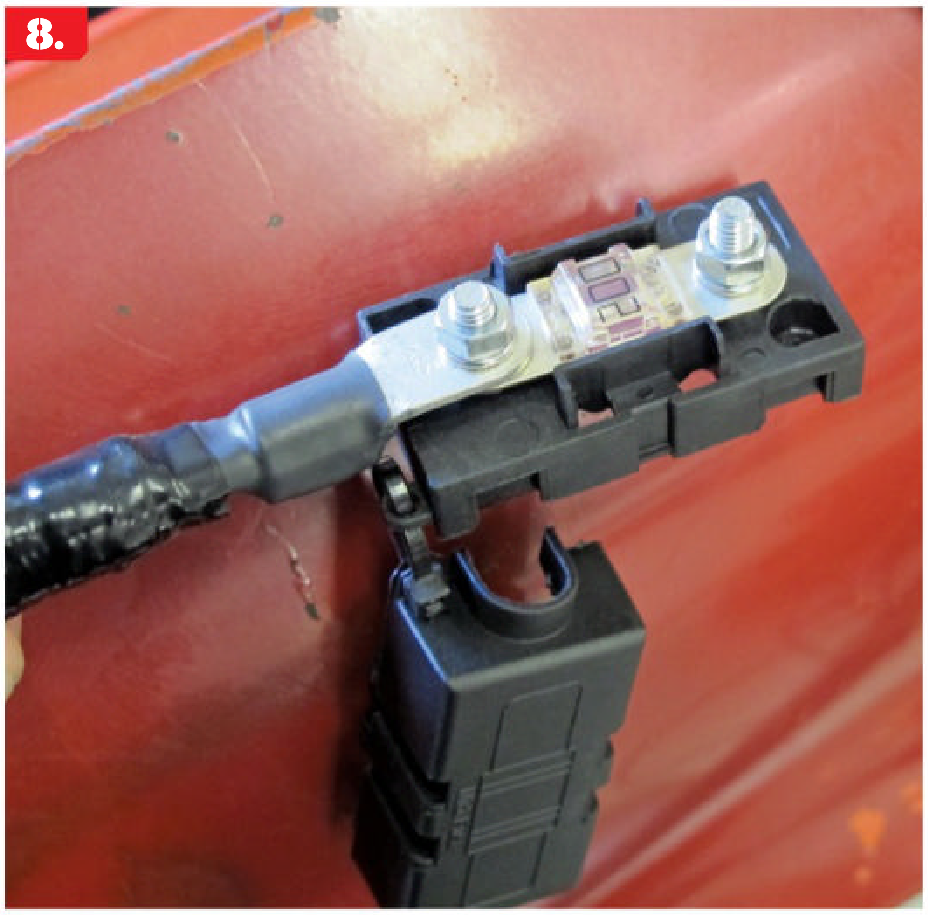




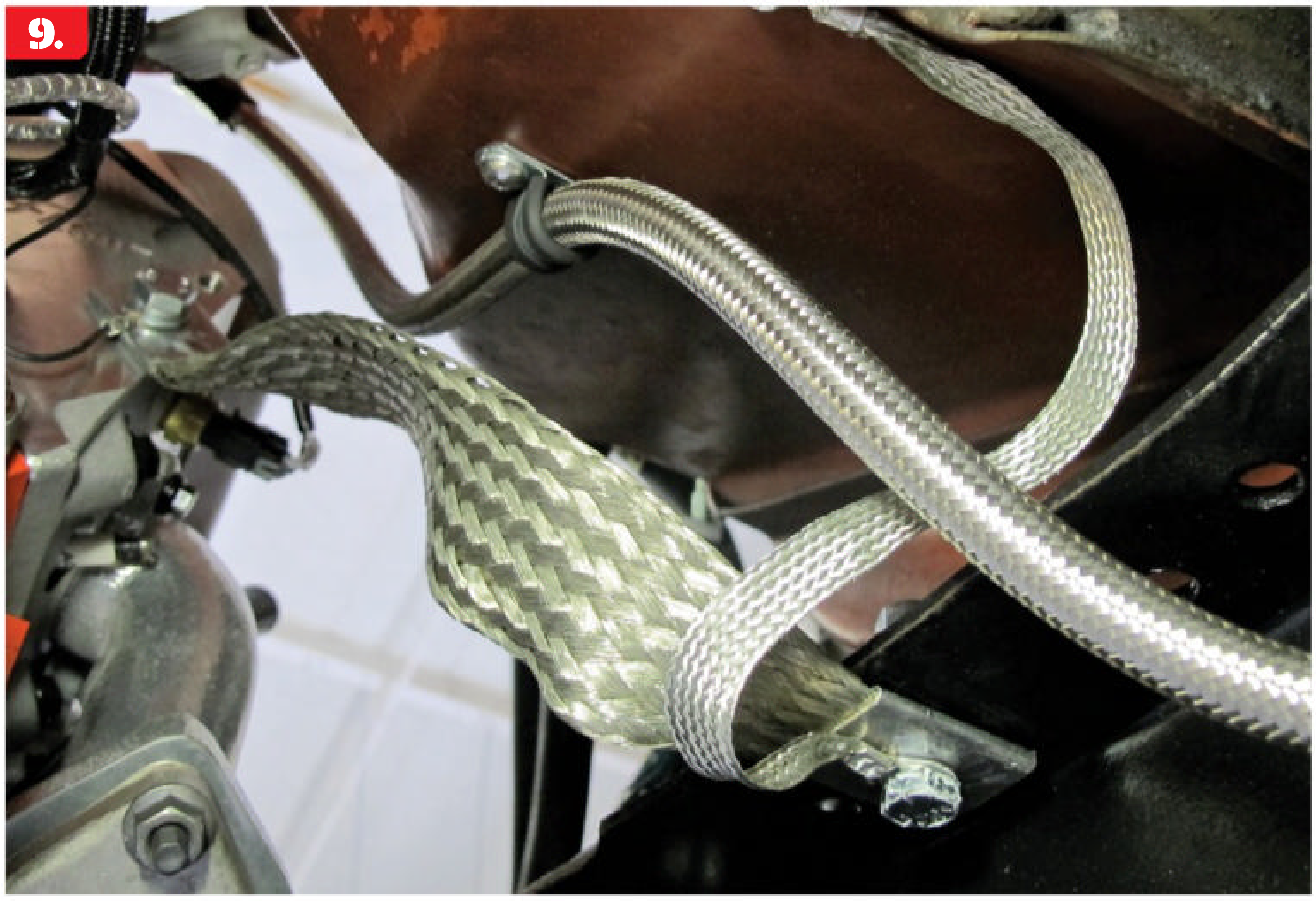
6. Careful routing of battery cables can be achieved using properly sized, insulated clamps.



7. Like the battery cables, the alternator cable should also be sized to match the output of the alternator. This wire is to be replaced with a larger gauge version to match the new alternator.



8. A pair of properly sized fuses should be installed between the alternator and the battery as well as between the battery and the fuse panel. This ensures the entire electrical system is protected against shorts or runaway components.



9. Proper grounding points between the battery, chassis, engine, and sheetmetal ensures optimum performance of all the electronic components and promotes battery charging efficiency and battery lifespan.

The Duralast and Duralast Gold lines are traditional, flooded cell construction batteries and feature an extreme bond construction created by high-density paste formula. Duralast is an effective OE replacement and Duralast Gold is designed to outperform OE. Impact-resistant polypropylene construction helps minimize damage from vibration—a necessary improvement for those lumpy-cammed Chevys. Inside a fully framed stamped power grid resists shorts and improves charging with 66 percent more corrosion resistance and 70 percent better electrical flow, resulting in longer battery life than industry book mold grids. Proprietary-designed High-Density Paste improves cycling performance, while a higher overall plate count and thin grids maximize the surface area delivering increased CCA and reserve-capacity requirements. Robust separators and positive and rounded corner negative plates help eliminate shorts. Heavy-duty strap and weld construction utilizes high-grain top alloy and the industry's best intercell weld, engineered to stop corrosion and prevent premature failure.

Duralast Platinum Batteries, on the other hand, feature a completely different, modern construction design known as Absorbent Glass Mat (AGM). Featuring numerous thin lead plates sandwiched between soaked glass mat "sponges," AGM batteries carry its charge amongst the soaked sponges instead of the free-flowing liquid inside a traditional "flooded" cell battery. This construction allows Duralast Platinum's AGM battery to provide a faster recharge time, higher CCA, lengthened lifespan, and withstands shaking and vibration better than the traditional battery design. A special valve design contains the liquid inside the battery's case, capturing the elements released inside the battery as electricity is drawn or charged, resulting in a spill-proof, sealed battery. *(Note: Electric Flooded Batteries, or EFB, are also available in Duralast Platinum.)* ACP

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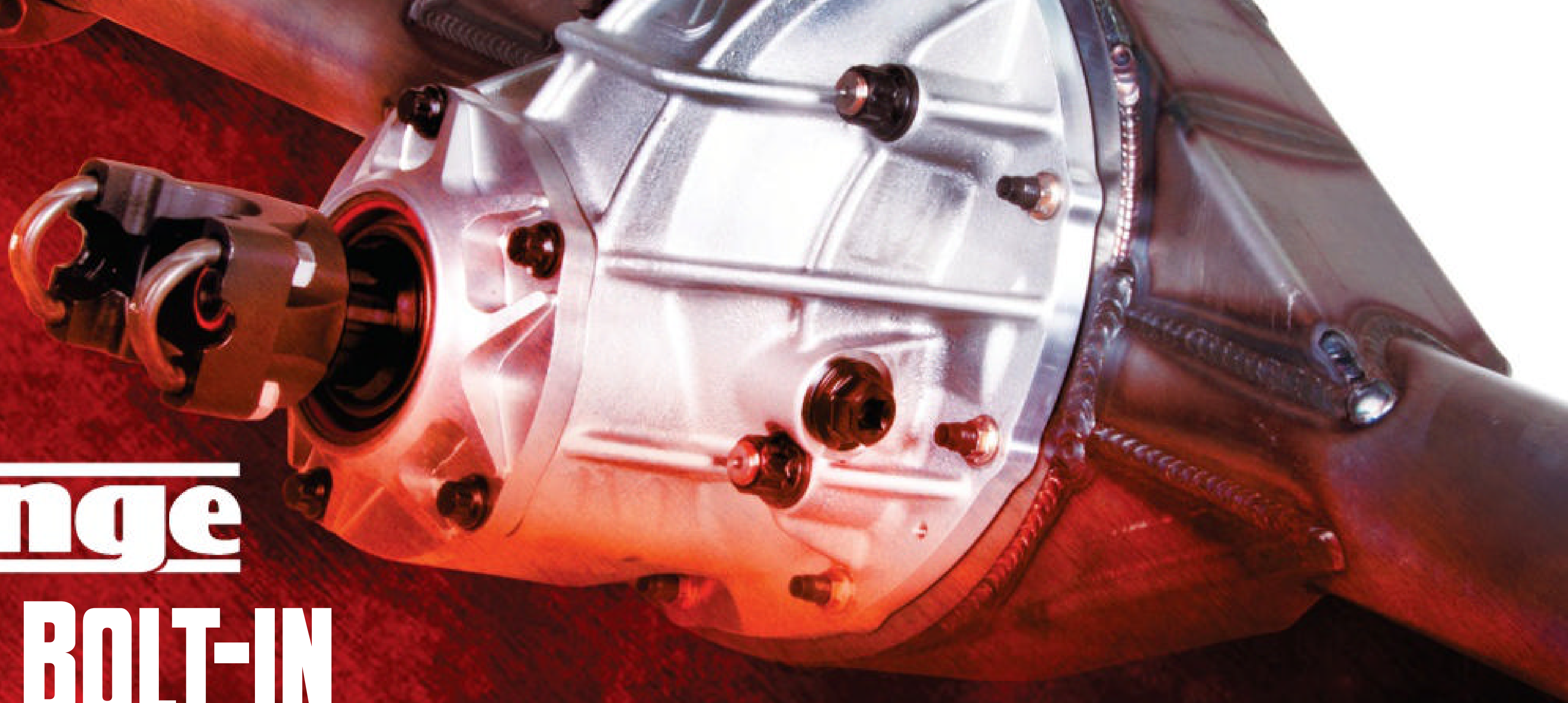

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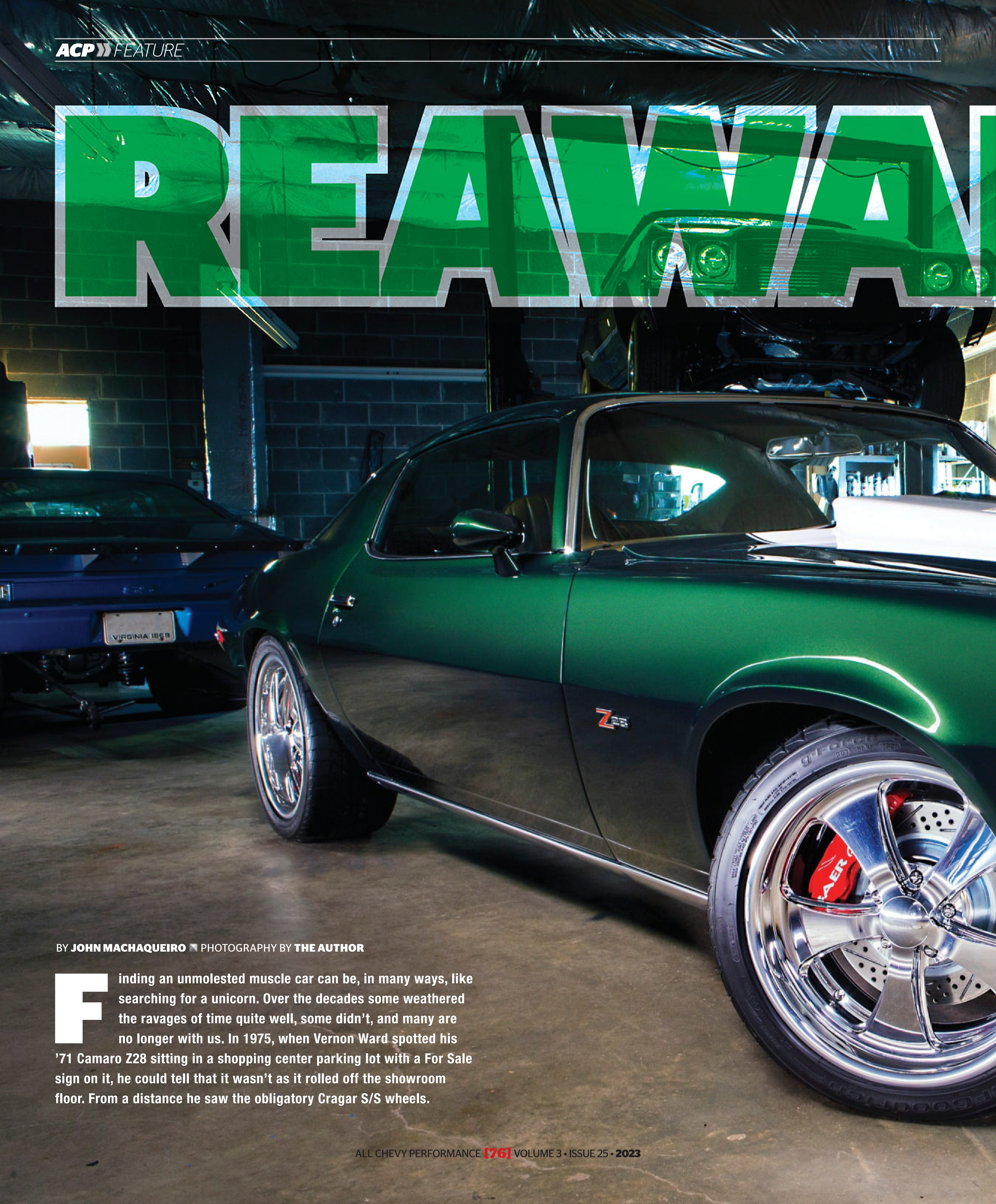
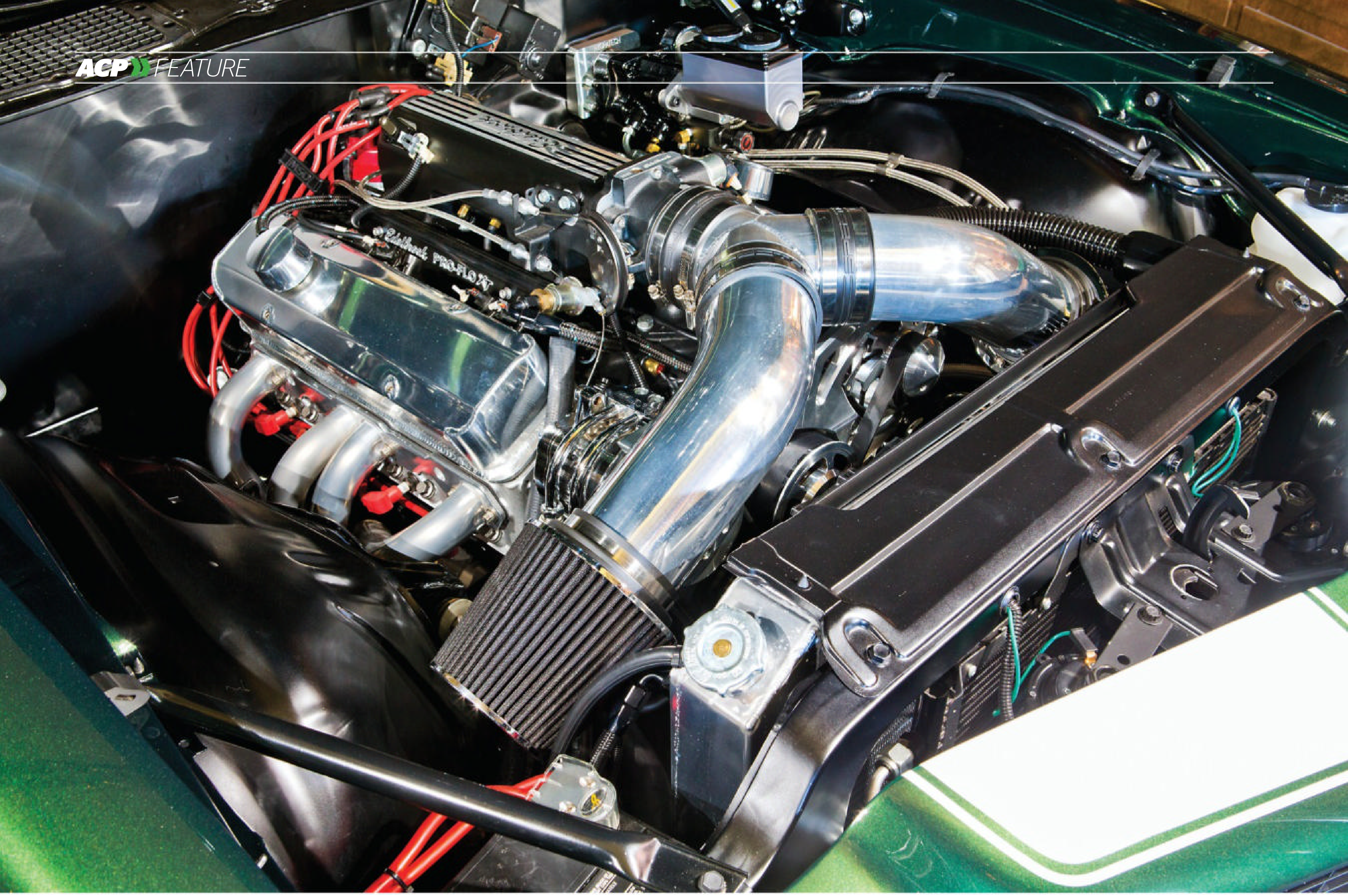


BY **JOHN MACHAQUEIRO** PHOTOGRAPHY BY **THE AUTHOR**

Finding an unmolested muscle car can be, in many ways, like searching for a unicorn. Over the decades some weathered the ravages of time quite well, some didn't, and many are no longer with us. In 1975, when Vernon Ward spotted his '71 Camaro Z28 sitting in a shopping center parking lot with a For Sale sign on it, he could tell that it wasn't as it rolled off the showroom floor. From a distance he saw the obligatory Cragar S/S wheels.

KENING

VERNON WARD'S '71 CAMARO Z28



When he popped the hood, the LT-1 350 small-block was gone and in its place was a 400ci small-block capped off with a two-barrel carburetor—this on a car that was barely 4 years old with less than 40,000 on the odometer. None of that mattered to Vernon. "I've always liked Camaros, especially the Z28," Vernon explains. "I liked the way the car looked and that stripe on the hood really stood out." He further adds, "Engines got blown up back then. People didn't think anything of it and didn't really care about a car being numbers matching. If an engine blew up, they just threw it away and put something else in its place and moved on." What he saw was spot-on, and it was realistically priced by '70s standards, so it went home with him.

Two years after making the purchase he decided to give the car a repaint. Vernon wasn't fond of the antique green the Camaro was wearing and it was so flat he went up a year and had it painted in Sequoia Green, a '72 color. Between 1975 and 1979 the Camaro saw seasonal use. It was a weekend driver between April and September. As with many car owners, sometimes automobiles end up being just that, while other priorities in life take center stage. That's exactly what Vernon faced, so at that fork in the road he decided to park the Camaro. "I really didn't want to sell the car," he states. "I had other cars that I ended up selling, but I wanted to keep the Camaro." Some hibernations last longer than others, and in Vernon's case it lasted until 2011 when it once again saw the light of day.

Upon the Camaro's reemergence, Vernon had some ideas on what he wanted to do. While he was content with the car's overall demeanor prior to parking it, two decades in gave him plenty of time to consider some modern upgrades. Finding a trustworthy individual or shop to work on your car is often the biggest hurdle, but in this case, he didn't have to look far. A phone call to John Bowles resolved that issue. Bowles and Vernon have been the best of friends for decades and you can't ask for more than that.

When they initially set out on the makeover, the foundation they had to work with was pretty solid. The car was still wearing its original rust-free sheetmetal and the 400 ran well. Bowles assumed the responsibility for all the mechanical work and the project was officially started.

Vernon wanted to upgrade to fuel injection and also improve the car's handling and braking, so the first thing they addressed was the 400. The decision was made to give it a complete rebuild and punch it out to 406 ci with all-new hardware, which included a set of Edelbrock Performer aluminum heads, Sealed Power aluminum pistons, and a Comp Cams hydraulic roller camshaft. The carburetor was swapped in favor of an Edelbrock Pro-Flo XT EFI and intake combination, and the M22 four-speed was replaced with a 700-R4. The exhaust was also replaced with Hooker headers and Flowmaster hardware. When it came to handling, up front Bowles retained the stock spindles and installed Hotchkis springs and sway bar and a set of Gabriel gas shocks. At the rear, a set of Hotchkis 2-inch drop springs were installed with Gabriel gas shocks. On the braking end, Baer six-piston calipers riding on 13-inch rotors were added up front, while at the rear Baer four-piston calipers with 12-inch rotors replaced the factory drum brakes.

Wheels and tires were also on the list. While many like the nostalgic look of the Cragars, Vernon wasn't having any part of that rewind. Budnik X-Series Fontana wheels wrapped in BFGoodrich g-Force Sport rubber checked both the visual and performance boxes.

While Bowles tackled all the mechanicals, he also lined up other shops to handle the rest of the car's needs. The paint was next on their list. It was once again in need of another repaint in Sequoia Green and the white stripes that Vernon was so fond of. His search led to Matt Lamb. Working from a home shop, he not only handled the paint but also the bodywork.

VIRGINIA 1969

Z28
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TECH ✓

OWNER: Vernon Ward, Madison County, Virginia
VEHICLE: ’71 Chevrolet Camaro Z28

Engine

TYPE: GM cast-iron small-block
DISPLACEMENT: 406 ci
COMPRESSION: 8.5:1
BORE: 4.155
STROKE: 3.750
CYLINDER HEADS: Edelbrock Performer aluminum
ROTATING ASSEMBLY: GM forged crank, Sealed Power pistons, GM connecting rods
CAMSHAFT: Comp Cams Thumpr hydraulic roller camshaft
INDUCTION: Edelbrock Pro-Flo XT EFI, Edelbrock aluminum intake, Delphi electric fuel pump
IGNITION: Mallory, March 110-amp alternator
EXHAUST: Hooker Headers, Flowmaster stainless steel 2.5-inch tubes, 2.5-inch Flowmaster 80 series crossflow mufflers
ANCILLARIES: Wizard three-row aluminum radiator and fans, Vintage Air A/C, March accessory drive system
BUILT BY: John Bowles, JRA Motorsports (North Garden, VA)

Drivetrain

TRANSMISSION: GM 700-R4, 2,200-stall converter
BUILT BY: Weavers Automotive (Madison, VA)
REAR AXLE: GM 10-bolt, 3.42:1 gear ratio
DRIVESHAFT: GM shortened 3 inches

Chassis

FRONT SUSPENSION: Stock spindles, stock A-arms, Hotchkis 2-inch drop springs, Gabriel gas shocks, Hotchkis sway bar
REAR SUSPENSION: Hotchkis 2-inch lowering springs, Gabriel gas shocks, stock GM sway bar
BRAKES: Baer 13-inch rotors, six-piston calipers front, Baer 12-inch rotors, four-piston calipers rear

Wheels & Tires

WHEELS: Budnik X-series Fontana, 18x8 front, 18x9.5 rear
TIRES: BFGoodrich g-Force Sport 225/45R18 front, BFGoodrich g-Force Sport 275/40R18 rear

Interior

SEATS: GM factory
UPHOLSTERY: Legendary Auto Interiors Saddle vinyl
CARPET: Legendary Auto Interiors Saddle loop
GAUGES: Stock GM with Auto Meter Auxiliary gauges
STEERING WHEEL: Grant GT
SHIFTER: B&M Magnum Grip Pro Stick
CONSOLE: Stock GM
HEAD UNIT: Alpine
AMPLIFIER: Arc Audio 2300
SPEAKERS: JL Audio 6.5 front, JL Audio 6x9 rear, (2) JL Audio W6 12-inch subwoofers
INTERIOR INSTALLATION: King’s Auto Upholstery (Roanoke, VA)
STEREO INSTALLATION: Extreme Audio (Mechanicsville, VA)

Exterior

PAINT: Axalta ’72 Sequoia Green basecoat/clearcoat
BODYWORK AND PAINT: Matt Lamb
HOOD: Reflexxion cowl induction
PLATING: Advanced Plating

Edelbrock PRO-FLO XT

With the car in excellent condition and carrying original sheetmetal, the only change was the addition of an aftermarket cowl induction hood. Once he had the body ready for paint, the Axalta basecoat/clearcoat was applied with the addition of some pearl on the stripes.

As that was wrapped up, Vernon shifted his focus to the Saddle interior, which he was looking to retain. Having purchased a factory-correct replacement from Legendary Auto Interiors, he had the guys at King’s Auto Upholstery in Roanoke, Virginia, handle the install.

Also high up on the wish list was a killer stereo system. For that piece of the puzzle, he took the Z28 to Extreme Audio in Mechanicsville, Virginia. They created custom door speaker housings, a custom rear parcel shelf, and a one-off trunk enclosure that visually borrows from interior and exterior elements.

When asked if there was anything that he would do differently to the four-year effort, Vernon states, “I made a few mistakes along the way and I was able to correct some of them—and some of them I didn’t. A lot of people started going with the LS engines. If I had to do it all over again that’s the way I would go.” He also points out, “I have to thank John Bowles for all the hard work, long hours, and great ideas. He would let me know what would work and what wouldn’t, and he found the best people for the various jobs. It’s always a plus to have good friends who take care of you and look out for your best interest. The car was great back in 1975 and, thanks to these guys, it’s even better today.

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PERIOD-CORRECT GASSERS RACE HEADS UP AT KNOXVILLE DRAGWAY

BY **TOMMY LEE BYRD** PHOTOGRAPHY BY **THE AUTHOR**

The modern interpretation of the term "gasser" has gone well beyond the threshold of accuracy. We see street gassers at car shows and cruise nights, and while those cars are often built with good intentions they are not typically built with history in mind. That's what we like about the Southeast Gassers Association. Even though most of the cars feature modern parts inside the engine and transmission, they are otherwise accurate representations of the gasser wars of the '60s. The rules package is strict, and the racers are dedicated to going as quick as possible in true heads up drag racing.

The Southeast Gassers Association recently converged on Knoxville Dragway in Maynardville, Tennessee. This track has history dating back to the '50s, but it was an oval track during that time. During the '80s, an eighth-mile dragstrip was built on the oval track's front straightaway. Knoxville Dragway is under new ownership for the 2022 season, and Wes Clapp and crew made a huge effort to roll out the red carpet for the Southeast Gassers Association group.

B/G
6767
RENEGADE
GASSERS

L79
FreeBird
ABC
ACP Headers
SCOTT
Hoosier
221

GASSER GOODNESS

S/S
52
USA-1
AMMON R. SMITH AUTO CO.
YORK, PENNA.

Cracker
Jack
York
VARNER Hauling

Buckeye
BANDIT
HILBORN

B/GAS
LAMAR WALDEN

L79
FREEBIRD

1958
DOUBLE XX
RACING

A/G 111

Nova SS

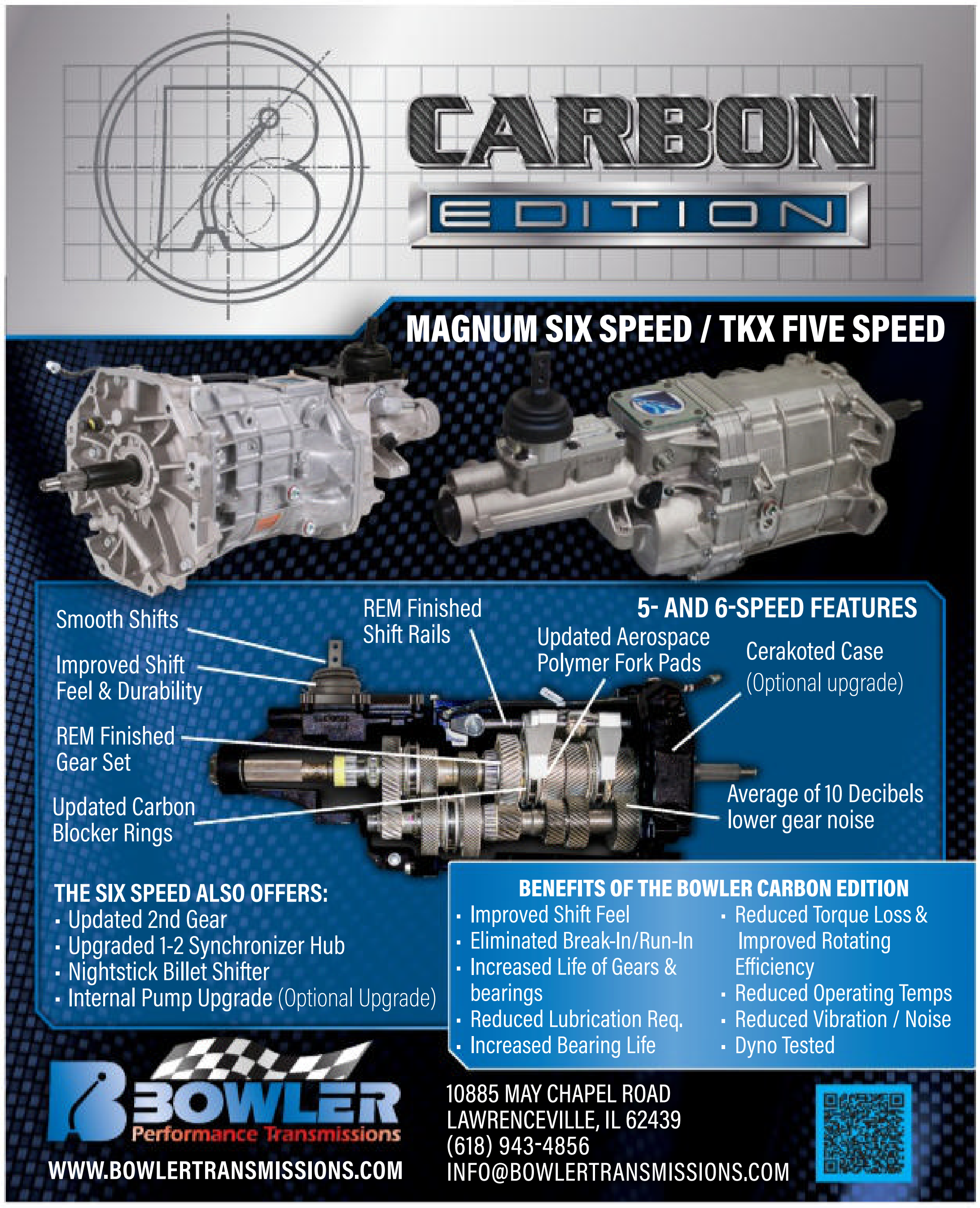
The race kicked off at 1 p.m. with qualifying, which involved two rounds of side-by-side action to set the field for A/Gas, B/Gas, C/Gas, H/Gas, Super Stock, and A/FX. The main attractions are the top three gas classes and Super Stock, as these classes were racing for a purse of more than $14,000. With so much money on the line, this year's event was given the name "Jackpot Nationals." In case you were wondering, the H/Gas class is designed for vintage VW and six-cylinder-powered cars and trucks, and it is currently an exhibition class, as is A/FX, which is a class that pays tribute to the early days of altered wheelbase cars.

InTheGarageMedia.com
C/G
62
FULTON
COMPETITION
HARRIS

By dark, the fields had been narrowed down to the finalists. The stands were still packed and the cheers were intense during those final rounds. One of the cool things about Southeast Gassers racing is that the scoreboards do not display the elapsed times. This keeps the spectators guessing, even if a particular car has the field covered by a decent margin. In the case of the Jackpot Nationals at Knoxville Dragway, there were no run-away winners—all of the rounds featured close side-by-side racing. There are no bracket classes in the Southeast Gassers Association and there are no automatic transmissions. This creates an exciting atmosphere, with big-time rpm, wheels-up launches, and wild passes.

S/S
1167
USA1

848
SON
STRYCH'09
B/GAS
MAHLE
Hoosier
LAMAR WALDEN
Atlanta
PAVING



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Ultimately, it was a diverse group of cars that made it to the finals. Super Stock was a Chevrolet versus Pontiac battle, with Ron Allison's Chevrolet coming out on top. Then, C/Gas came down to two crowd favorites: Todd Oden in his '58 Chevrolet and Bill Wilson in a wheelstanding Studebaker pickup. Bill Wilson came out on top. B/Gas final round action featured Daniel Haynes' Ford Falcon going up against Ted McKee's "Rocky Top Missile" Chevy II. Haynes came out on top, but not without a fight! Finally, it was A/Gas, the top dogs of the Southeast Gassers Association. Another Ford versus Chevy battle positioned Gabriel Burrell in his Model A Ford against Kenneth Phillips and his wild Corvette gasser. In a side-by-side battle, it was Phillips turning on the win light.

Overall, it was an exciting day of racing, and we're happy to bring you all the highlights from this annual event that never fails to provide thrills to the thousands of fans in attendance.

If you want to experience a Southeast Gassers Association race in person, check out southeastgassers.com for the full schedule of events.

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